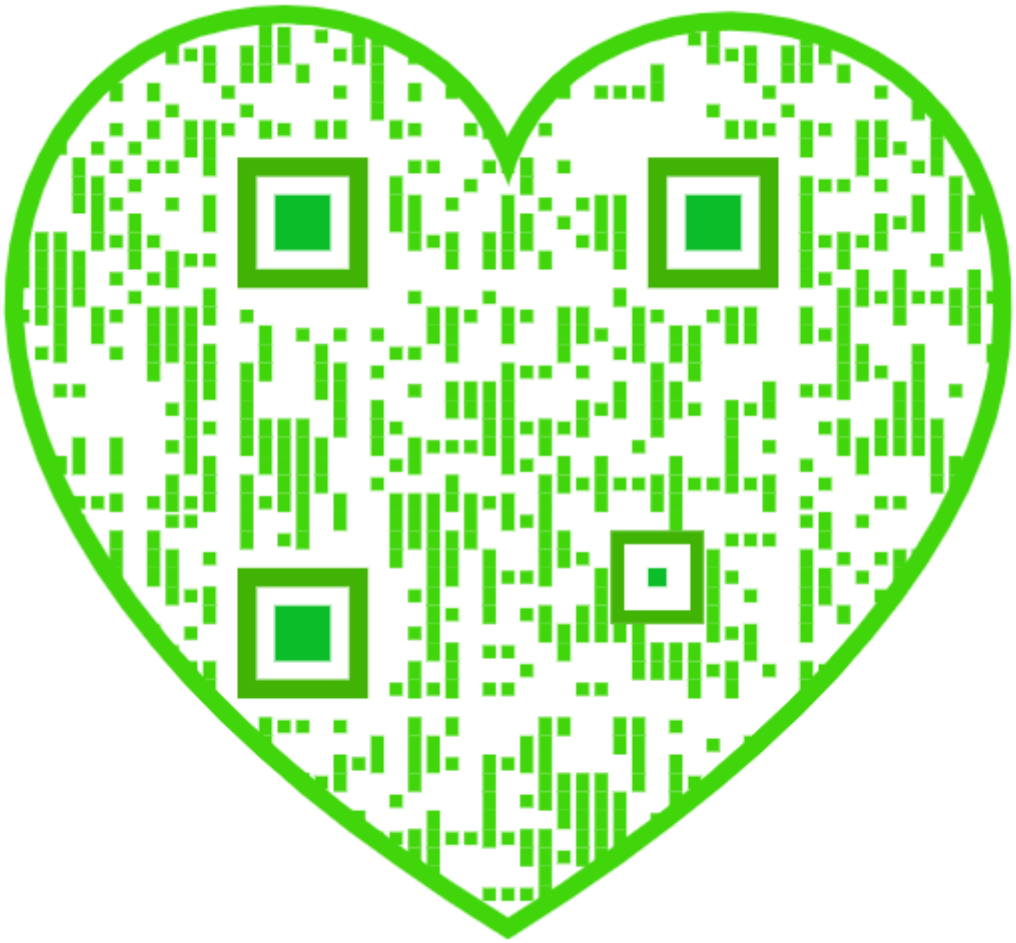

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YOUTH fades; love droops; the leaves of friendship fall;
A mother's secret hope outlives them all.—HOLMES

GUIDING HINTS
IN
OBSTETRICAL NURSING

By

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MOTHER.

"To her care have been intrusted
All the heroes of all lands;
Still the fate of church and nation
Holds she in her slender hands,
Guiding wilful feet and faltering
On through childhood's happy years,
On through youth with its temptation,
With its hopes, its doubts, its fears;
Cultivating all that's noble,
Gently chiding all that's wrong,
'Till her children gather 'round her,
Men and Women, pure and strong,
By the quiet ministrations,
In the little realm of home,
For the structure of the ages,
She has laid the corner stone."

To

Frank A. Glasgow, M. D.

Arthur N. Curtis, M. D., and Louie P. Butler, M. D.

As an inadequate token of appreciation and esteem this little book is respectfully dedicated by

The Author.

PREFACE.

The following lines are, as they imply, helpful suggestions in obstetrical nursing. They are guiding steps and gentle reminders of knowledge already acquired. This little book is not intended as a text-book, but was written with a view of helping the young nurse in private practice when first thrown upon her own responsibilities, in aiding her in remembering the important practical teaching of hospital training.

While this little book is not intended as a text-book, the pupil nurse will, I am sure, find it helpful to her, and the inexperienced will find in its pages many helpful suggestions to aid them in this very important and delicate branch of nursing. There are, also, to be found many useful hints for the expectant mother.

I have prefaced my book with a description of the maternal organs, their position, structure and their each important function. Following this short chapter, a few lines upon the importance of the expectant mother placing herself under the care of the physician that is to care for her early in pregnancy; the necessity of the observance of hygiene during this time, symptoms of pregnancy, and the changes in the maternal organs during pregnancy. Following these chapters comes the very important one of labor; and in this chapter and the one that follow, I have endeavored to take the nurse step by step from the beginning of labor to the complete recovery therefrom.

Showing her how she may be of assistance to the attending physician; making notes of obstetrical and surgical complication and interference, with simple remedies that may be used in an emergency. Then follows a short chapter on the "Care and food for the baby."

I have purposely avoided all medical and technical terms, using the simplest words to express the meaning intended to be conveyed, so as to make everything plain and comprehensible, and to avoid all doubt as to the meaning and method given.

The hints herein contained are taken from lectures delivered at the Training School, and personal professional experience. The author especially acknowledges her indebtedness to Frank A. Glasgow, M. D.; Arthur N. Curtis, M. D., and Louis P. Buttler, M. D., for many of the guiding hints herein contained.

THE AUTHOR.

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CHAPTER I.

THE ORGANS OF GENERATION.

"Man is fearfully and wonderfully made."

In studying the subject of obstetrics it is important to understand something of the anatomy of the pelvis, its adaption to childbirth, and the organs of gen-

Fig. 1—Female pelvis. (Dickerson.)

eration. The pelvis or bony frame work of the lower

part of the body, so called from its resemblance to a basin. It is composed of four bones. The two os in-

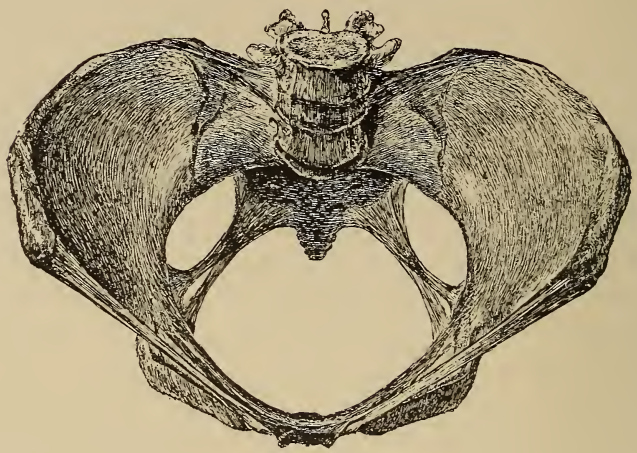

Fig. 2—Female pelvis with ligaments viewed from above. (Dickerson.)

nominata or hip bones, consisting of the two ilia, two ischie and one pube, forming the sides and front, and

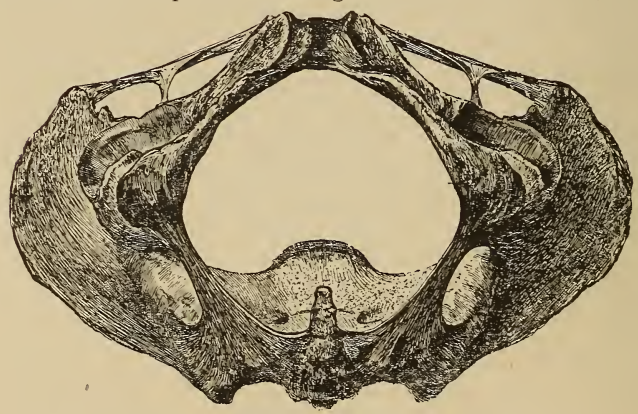

Fig. 3—Female pelvis with ligaments viewed from below.

the sacrum and coccyx completing it behind. The pelvis is a bony basin without a bottom. The lower

opening is the inferior strait or outlet through which the child is propelled and finally expelled. These bones expand under pressure and during the greater part of the child bearing period there is more or less elasticity of the joints capable of being utilized dur-

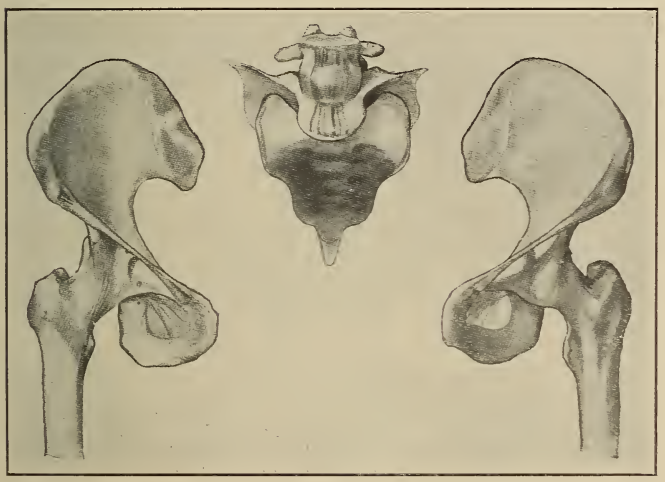

Fig. 4—Female pelvis with bones separated.

ing childbirth. Like other parts of the body, the pelvis is often deformed which unfits a woman for maternity. This deformity may be hereditary or due to injury or mode of living. The higher we go in civilization the more often do we find deformity present. Crooked bones and pelvic deformity may not seriously interfere otherwise with its relations with the rest of the body. But such a woman should not marry, she cannot bring a child through a deformed pelvis without great danger to both herself and child.

THE ORGANS OF GENERATION.

The organs of generation are the two ovaries, the

two fallopian tubes, the uterus or womb, the vagina, the vulva, and the two mammary glands.

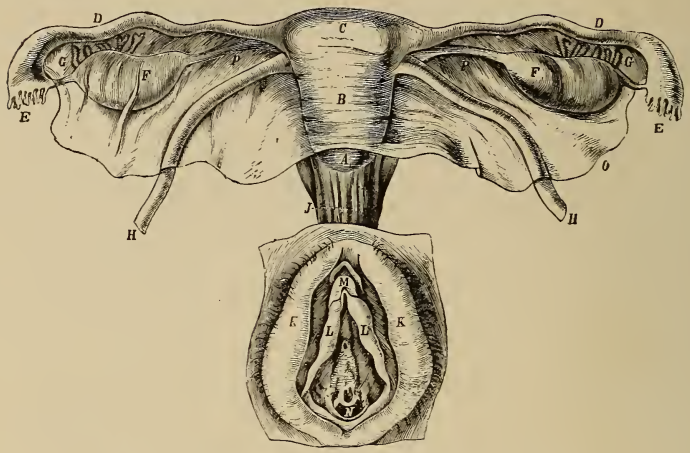

Fig. 5—Female organs of generation. (Beigel.)

A, portio vaginalis; B, corpus uteri; C, fundus; D, Fallopian tubes; E, fimbriae; F. ovaries; G, parovaria; H, round ligaments; J, vagina; K, labia majora; L, labia minora; M, clitoris; N. hymen. (Beigel.)

The Ovaries.

The ovaries are two small bodies, white in color, situated in the pelvic cavity, on each side of the uterus, on the posterior surface, just below the fallopian tubes. They are the size and shape of a flattened pigeons egg. They are composed of small vesicles called the graffican follicles, which contain a smaller vesicle called the ovum, from which the whole body is developed when the ovum is fecundated. The ripened human ovum is a highly developed spherical cell about 1-125 of an inch in diameter. It is enclosed in a thick membrane called the vetalline membrane. Within the membrane or cell wall is the protoplasm of the cell, filled with fatty and albumious granules, and is called the vitellus or yoke. Imbedded in the

vitellus is a transparent nucleus (the germinal vesicle). In this germinal vesicle is a small nucleus, the germinal cell. Remember a cell is a minute portion of living substance called protoplasm. At the moment of rupture the ovum is discharged into the ovary. After the ovum reaches certain stages of development it is discharged from the ovary into the fallopian tubes, and passing through this canal it is conveyed to the uterus. If the ovum is impregnated it is retained within the uterus, and the moment the ovum is impregnated by the male cell, life takes place. Upon the arrival of the ovum in the uterus it is grafted upon the mucus membrane. It usually lodges upon the upper surface of the side of the uterus, between two folds of mucus membrane. When the ovum passes from the fallopian tubes to the uterus it finds the mucus membrane prepared by certain changes to receive it. The mucus membrane becomes thick and soft and furnishes the membrane known as the decidua. About the third month there develops be-

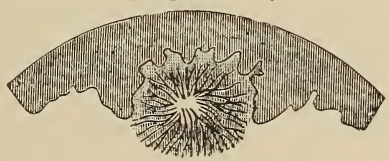

Fig. 6—Formation of the decidua.

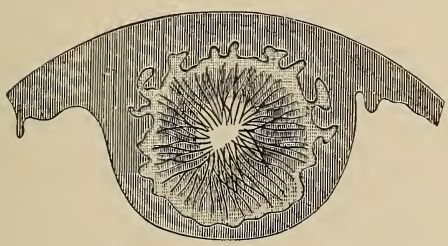

Fig. 7—Formation of the decidua completed.

tween the fetal sack and the wall of the uterus, the placenta. It is formed for the protection of the embryo.

The Placental Sack.—The child is enveloped in a sack with a double wall. The amnion inside, the chonon outside. This sack resembles a flat cake. The umbilicus cord is inserted on one side and the other side of the placenta is attached to the inner surface of the uterus. The mother's blood flows in and around the placenta. After the birth of the child the placenta is separated from the wall of the uterus and expelled. It is about seven inches in diameter and one inch in thickness, weighing about sixteen ounces. The Placental blood vessels are the two Umbilical arteries, and one umbilical vein which extend from the placenta through the umbilicus cord and are continuous with the circulatory system of the fetus.

The Umbilicus Cord.—The umbilicus cord is composed principally of these vessels, namely, the two umbilicus arteries and one umbilicus vein and a peculiar substance known as the jelly of Wharton. It is about twenty inches long and a half an inch thick.

The Amniotic Fluid.—The placental sack contains a fluid known as the amniotic fluid. In this fluid the fetus floats during its intrauterine life. It is formed for its protection. It protects it from sudden jars and shocks. The origin of the amniotic fluid is not known, the most probable supposition being that it is simply exuded from the tissues of the fetus. After the formation of the placenta, a capillary network, connected with the vessels of the umbilicus cord, is developed just beneath the amnion in that portion of the chorion which covers the placenta. From these vessels a transudation of serum takes place into the cavity of

the amnion. The increased amount of fluid in the amnion in the later months of gestation is possibly due to the accumulation of urine which the fetus passes from time to time during intrauterine existence. The amniotic fluid contains in addition to water, albumen, urea and salts which are found in serum and urine. This fluid is a great factor in the first stages of labor. First it dilates the cervix and the vagina gently and evenly. It protects the baby from injurious pressure on any one part. When the uterus contracts the pressure on the fetal sack is even, and after rupture it lubricates the passage, making the child descend with less effort, and if there is infection in the vagina it washes it out, and prevents it getting into the baby's eyes.

The Fallopian Tubes.—The fallopian tubes are two in number, situated on each side above the ovary. They are of reddish glistening color, resembling a trumpet, the expanded end over the ovary, and the other at the upper end of the uterus. They are hollow muscular canals, about three inches long which every month convey the ovum into the uterus.

The Uterus.—The uterus is a muscular flattened pear-shaped organ, two and a half inches long, one and a fourth inches wide, and three fourths of an inch thick, weighing from two to two and a half ounces. Situated in the middle of the pelvic cavity, behind the bladder and in front of the rectum. The small intestine rest upon it. It is held in position, mainly, by two large folds of peritoneum called the broad ligaments, and two rounded fibro-muscular cords called the round ligaments, and the tissues below. It is freely movable in all directions. The upper angles are called the horns or cornea, and receive the

fallopian tubes. The lower part is called the neck or cervix. A portion of this protudes into the vagina and presents an orifice called the os, which leads into a cavity in the interior of the uterus.

In the virgin it is a very tense organ, weighing about two ounces, but when pregnant it increases immensely in size and capacity.

The Vagina.—The vagina is a curved muscular membranous canal situated in the pelvis, extending from the vulva to the uterus, and is very dilatable. Its walls are composed of mucus membrane and muscular fibrous coats, and it is supplied with lymphatics, blood vessels and nerves.

The Vulva.—The vulva is the external orifice of the female organs of generation.

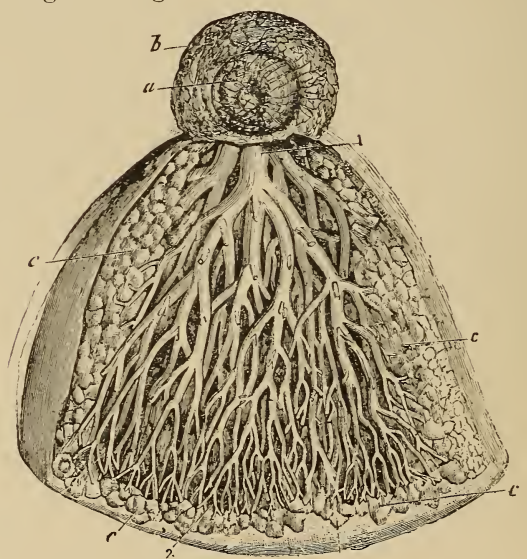

Fig. 8—Mammary glands.
Mammary gland. a, nipple, the central portion of which is retracted; b, areola; c, c, c, c, c, lobules of the gland; 1, sinus or dilated portion of one of the lactiferous ducts; 2, extremities of the lactiferous ducts. (Liegeois.)

The Mammary Glands.—The mammary glands are the large racemose glands which secrete the milk.

Thus we will see how closely connected, and how important the function of each organ is. The ovary furnishes the ovum or germ from which the new creature is created, the fallopian tubes receives this germ and convey it to the uterus, and in the uterus the germ obtains the nutritive material necessary for its life, growth and development.

CHAPTER II.

PREGNANCY.

Pregnancy begins with conception and terminates with the expulsion of the foetus and membranes.

Medical Supervision.—The expectant mother should place herself under the care of the physician, who is to attend her during labor, in the early days of gestation, or as soon as she is aware of her condition, or has a belief as to its probability, as a certain degree of professional advice and attention is required during the whole period of pregnancy, and never later than three months before delivery. The last three months constitute the most critical period in the life of the expectant mother, and she should be under the constant care of her physician during these months and consult him upon the least indisposition; while the condition, as a rule, is merely weakness, the borderland between health and disease may be very easily overpassed. At any time disorders or complications may occur. These in all probability can be promptly remedied by the physician's watchful care and treatment. He will then be in a position to foresee, and in all probability, to prevent the occurrence of serious complications at the time of labor. The obstetrical patient is often neglected, both in regard to her medical attendance and her nursing. Often selecting the physician whose fee is small, or worse

still, an ignorant midwife or some monthly nurse, entirely forgetting that conditions and complications may arise in which to save the life of mother or child, or both, would require the highest obstetrical skill. The obstetrical patient should secure the best accoucher possible; he should be a physician of experience and reputation, also, select the best obstetrical nurse obtainable. Use the same care as one would use in selecting a surgeon and nurses for a surgical operation. For the danger is great, and there are two lives to be considered. During the last three months an examination should be made to ascertain the position of the child's head and the presenting part, and to make sure if any complications exist. Also, to learn the relative size of the pelvis of the mother and the head of the child. So a patient will readily see how necessary it is to be careful in selecting her physician early in pregnancy.

The mother thus guarded, and her condition carefully watched by a skillful accoucher, with a competant obstetrical nurse to take care of her after labour, there is little cause for fear but that she will pass through the ordeals in perfect safety. The mother's whole duty is now to herself and her child, nothing should be allowed to interfere with the well being of either.

"Every child has the right to be born well."

CHAPTER III.

HYGIENE OF PREGNANCY.

The study of Hygiene is an old study; it dates back to ancient times. It was the practice of the ancient Greeks and Romans; not as practiced today, but for specific reasons. "Hygiene," the goddess of health, and as the word signifies "to make beautiful;" the science of health and its preservation, and as taught today is quite a modern science, broadening and widening our duty as nurses. It is easier to keep people well than to cure them after they are sick. This is particularly true of the obstetrical patient. The health of the patient is a matter of great importance during the pregnant state. Health as we are taught is that perfect condition of an individual in which all parts of the wonderful body act in perfect harmony, freedom and uniformity, and in which there is a perfect balance between waste and repair, between the outpour of energy in work, and the intake of energy in food. Between the quantity and quality of solids and fluids taken in and thrown off by the body each day. Health is a body state of perfect harmony; the perfect circulation of pure blood in a sound organism. The most essential rules to be observed during the pregnant state is to keep all the organs in a good healthy condition that they may accomplish the extra work required of them. This is accomplished by living in a healthy natural manner; having regular hours for meals and sleep; daily exercise in the

open air; comfortable clothing; avoidance of exhaustion and great muscular exertion; frequent bathing; freedom from worries. The patient should not fret, but keep herself occupied by light and pleasant work. During the pregnant state the increased elimination of waste material which must be thrown off by the mother, both for herself and the developing child, throws extra work on the various organs of the body. The greatest strain falls on the eliminative organs. Those organs that dispose of waste materials found in the blood are the lungs, the skin, the liver, the bowels and the kidneys. As these organs dispose of waste products they should receive special attention.

The Lungs.—During pregnancy the increased elimination of carbon dioxide by the lungs is necessarily associated with an increased consumption of oxygen. This respiratory activity makes an abundance of fresh, pure air at all times a matter of great importance. Small, close, over-heated or crowded rooms are to be avoided, also, confinement indoors. The patient should have all the fresh, pure air possible.

Sleep.—Regular and abundant sleep is required by the pregnant woman—at least eight hours—and a nap should be taken in the afternoon, or if the patient is unable to sleep the time should be spent quietly resting on the bed. Avoid entertainments, theatrical parties and all social engagements which necessitate late hours, irregular meals or excitement.

Diet.—No absolute rule or list can be given as the same foods do not agree with or appeal to all patients. But generally little if any change is necessary in the diet. It should, however, embrace all nutritious and easily digested articles of food. A normal supply of

nutritious food improves the blood supply; increases functual activity, and aids in the healthy development of the fetus. The food should be plain and nourishing and easily digested and of sufficient quantity. The mother must take nourishment for the developing child as well as for herself. Milk, soft-boiled eggs, fresh ripe fruit in season, fruits cooked with very little sugar, with plenty of well cooked vegetables and red meat but once a day. These articles should form the basis of the diet. Fruits are valuable because of their laxative properties, and their stimulating action upon digestion. Fried dishes, pastries, unusually highly seasoned or very rich dishes, and sweet meats of all kinds are to be avoided. There is, during pregnancy a natural tendency to digestive disturbance, which is apt to be increased by rich food. Any actual craving for certain things should be submitted to the physician before it is yielded to. The appetite is naturally somewhat increased during this period, but should be kept within bounds. Over eating should be avoided.

Drink.—The patient should drink an abundance of pure cool water, at least from five to seven glasses daily. It washes the stomach, flushes the kidneys and assists these organs to get rid of waste products. Best taken before meals, an hour before eating and at bed time. If taken during meals it dilutes the digestive juices and reduces the temperature of the stomach and thus retards digestion. The water may be cool but not ice cold. Ice cold drinks are very injurious and should be avoided. Soda, orangeade, and lemonade are permissible. But beer, wine and all alcoholic stimulants are forbidden except by order of the attending physician.

Clothing.—The clothing should be loose and suitable for the season of the year. The underwear should be of wool even in summer. The drawers should be long reaching to the ankles. Wool is recommended in place of cotton, linen or silk because it absorbs the presperation as rapidly as it is formed and keeps the skin free from moisture and thus prevents chilling of the body. It keeps the vital organs warm and protects them. The clothing should be supported from the shoulders, which is the best method, and not from the waist, as too much pressure and weight is brought to bear on the chest and abdomen. Corsets should be discarded early in pregnancy, as they interfere seriously with the development of the child, they also hinder the action of the mother's heart and lungs, resulting in the improper oxygenation of blood for the requirements of both mother and child. This is especially true if worn tight. To lace to hide and conceal her true condition is foolish and wrong and may result in serious injury to both mother and child. Where the weight is very great and the patient feels the necessity of support, an abdominal bandage may be worn with the permission of the attending physician. Garters which encircle the legs should also be discarded, as they interfere with the circulation of the lower extremeties. The stockings should be pinned with safety pins, or side suspenders or supporters worn.

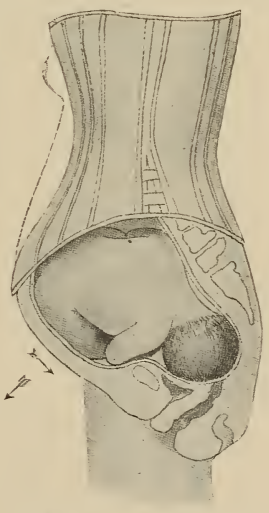

Fig. 9—Corset pushing the child and organs down in the pelvis.

Exercise.—Regular daily exercise in the open air should be taken each day, and never omitted except when the weather is very bad. The best form of exercise is walking. The length of the walk will depend on the strength and condition of the patient. A walk in the sun-light will often promote sleep. If unable to walk, a pleasant drive over a smooth street may be taken. Care must be taken not to over do it, and the patient become fatigued. Women miscarry most often at the third and seventh months. Women prone to miscarriage should observe care at the time that would correspond to the occurrence of the menstrual periods. Fatiguing exercise and great muscular efforts may prove disastrous. Violent excitement of any kind should be avoided.

Bathing.—The skin should be kept in a healthy condition by frequent bathing. A daily bath should be taken during the summer months, and twice a week during the winter months. The water should be warm, not hot or cold. Shower baths and sprays are never permitted during pregnancy. Baths are best taken upon retiring, as there is less danger in taking cold, they are restful and promote sleep. Thus by frequent bathing the skin is kept in a healthy condition, and by its elimitive action relieves the kidneys of some of the work they have to do. During the last two months of pregnancy, a daily application of olive oil to the skin, especially to the abdomen, vulva and perineum aids greatly in the prevention of tear from the distention of labor. It lessens the amount of scar tissues to be seen on the abdomen after pregnancy.

The Urine.—The urine should be examined from time to time in order to detect the first approach of

that very dangerous condition termed "albumenuria of pregnancy," which often causes the death of the mother and child, by convulsions.

The Bowels.—Normal evacuation of the bowels once daily should be the rule. If constipation presist the patient should consult her physician who will relieve her and adjust matters by some simple laxative. The use of active purgative pills cannot be too strongly condemned.

The Kidneys.—The kidneys during these months should receive special attention. The first decided evidence of disease or faulty metabolism is often found in the urine. Hence it is of the utmost importance that an examination of the urine should be made at the regular intervals in order that any such disturbance may be discovered in time and corrected. Once every month ascertain the quantity of urine passed during the twenty-four hours. Should it fall below forty-five ounces, it should be increased by drinking more water. Should this fail to increase the quantity the physician's attention should be called to it. Of course, the time of the year and the execretion of the skin are to be considered. A specimen of the mixed twenty-four hours urine should be sent to the physician in charge of the case once a month during the first six months, and twice a month during the last three months of pregnancy. Accompanying the specimen should be an accurate statement of the amount passed during the twenty-four hours. The examination of the urine is very important and should not be neglected. Neglect in some cases might cause serious trouble, and progress to such an extent as to produce a fatal termination, via, nephritis, uremic

poisoning and eclampsia. Toxameia in pregnancy is caused by the eleminative organs not doing their work properly. While these cases are comparatively few, no one can tell in which case this dangerous condition will arise. The only safe way is to treat each case with careful supervision, then the departure from health can be treated on first appearance and serious trouble averted. "Vigilance is the price of safety." The bottle should be surgically clean which is to receive the specimen for the doctor's examination. That is the bottle should be washed clean and then the bottle and cork boiled five minutes before using. It should hold at least three ounces; be tightly corked, and bear the date, name and address of the patient. Care should be taken to have the vessel surgically clean in which the urine is passed, and the external parts should be well cleansed. Washing well with soap and water before passing the urine. The kidneys are the weakest spot of the patient during pregnancy and deserve special attention.

The Teeth.—The teeth require special care during the pregnate state, as the salvia is more acid and the teeth decay more rapidly, and are often very sensitive, causing much suffering. There is an old saying "For every child a tooth." They should be cleansed in the morning, after each meal and upon retiring at night. Brushing them and rinsing the mouth well and thoroughly with a weak antiseptic, after which a little milk of magnesia taken into the mouth and allowed to cover and float around and over the teeth. This forms a film or coating which will protect them from the acid action of the salvia, thus preventing irritation and helps to preserve them. Should the teeth

become sensitive or the gums sore, the physician should be consulted. A tablespoon of lime water taken several times a week has been recommended. All small cavities should be filled. Large ones cleaned and temporarily filled, but no long tedious gold fillings or bridge work should be attempted during pregnancy.

Care of the Nipples.—During the last four weeks of pregnancy, the nipples should be washed with a boric acid solution, a tablespoonful to a pint of water. At night apply an ointment of cocoa butter or white vaseline. In the morning it should be removed with warm water, soap and a soft brush. This process helps to toughen them and prepare them for nursing. If they are small or sunken, they should be kneaded and manipulated and gently drawn out with the thumb and index finger so as to lengthen them, and the physician's attention called to it. It is very important that the breast receive the necessary care to enable them to perform their important function.

Fig. 10 — Massage of the nipple. Before child birth.

Swelling.—Should there be any swelling of the face, hands or feet; any headache or vomiting or disturbance of the sight, the physician should be informed immediately.

Vaginal Cleanliness.—During the first weeks and the last two or three weeks of pregnancy, there is an increased vaginal discharge, and it is very important that the external genitals should be kept daily cleansed to prevent irritation. Vaginal douches should not be taken except by orders of the physician in attendance. If used at all they should be warm; not hot or cold.

Contagious Diseases.—Avoid coming in contact with contagious diseases, diphtheria, scarlet fever, small pox, etc. Avoid, also, unsightly objects, fright or lifting heavy articles, running a sewing machine, overhead reaching, such as hanging up clothes, reaching to get an object from a shelf, and a pregnant woman should be careful and not lift young children. There is as much danger in lifting a heavy child as in lifting any other heavy article. Any discharge of blood, no matter how slight, occuring any time during pregnancy, is a warning to go immediately to bed, keep quiet, and send for the physician at once.

Occupation.—The patient should keep herself engaged in some pleasant, light and useful work which will give exercise to the muscles and occupy the mind, such as light house work, sewing and fancy work. The work must not be pushed to fatigue. She should be very careful not to expose herself in any way so as to take cold. Avoid wet feet. Neglect may be serious.

CHAPTER IV.

SYMPTOMS OF PREGNANCY.

First Symptom.

Among the early phenomena of pregnancy many patients experience the first month a nausea and at times vomiting. This is experienced usually as soon as the patient awakes or attempts to arise from her bed, hence it is termed "morning sickness." It is due to the spasmodic contractions of the stomach and diaphragm, a sympathetic disorder reflected upon the uterus. This, it is claimed, is due to our mode of living, that it is unknown in savage life. As this condition usually occurs on awakening in the morning, a little food, a cup of tea and a cracker taken before arising often relieves this uncomfortable condition. If it occurs later during the day it is often relieved if the stomach is promptly emptied. The nausea usually ceases after the fifth month when the uterus rises above the brim of the pelvis into the abdominal cavity. If it continues after the fifth month it is due to either indiscretion in diet or toxaemia. There are cases in which this condition becomes serious. Any marked vomiting should be reported to the physician and the treatment left to him. There is usually more of a nausea than actual vomiting. Very few pregnant women escape altogether digestive disturbance.

Second Symptom.

The cessation of the menstrual flow is usually a sign of pregnancy, although not a positive one. It is, however, of great importance where pregnancy exists in furnishing the physician with the only reliable guide for the calculating the probable date of delivery.

Third Symptom.

The breast enlarges and there is a pricking sensation. They are very sensitive to the pressure of clothing, and after the third month they contain a thin fluid, collostrum, is present and can be squeezed out. The nipples enlarge and have a soft feel, and the Areola becomes darker.

Fourth Symptom.

The softening of the neck of the uterus. The vulva assume a purplish blue color, owing to the dilatation of the veins. The abdomen changes in size and shape.

Presumptive and Probable Signs.

These are presumptive and probable signs or symptoms.

Positive Symptoms.

Any and all of the above symptoms may be present in uterine tumor. The only positive proofs and symptoms we have are palpitation of the fetus, fetal movements, the recognition of fetal parts and the fetal heart tones. The beating of the fetal heart can be heard about the fifth month. Faint at first but gets stronger as pregnancy advances.

These are the only positive signs of pregnancy.

Relative Value of the Signs of Pregnancy.

First: The presumptive evidence of pregnancy are

menstrual suppression; morning sickness and irritable bladder.

Second. The probable evidence are breast changes; abdominal changes in size, shape and color; also changes in the color and consistency of the neck of the uterus.

Third. Positive signs of pregnancy are active movements of the foetus; passive movements of the fetus; and the fetal heart sounds.

CHAPTER V.

CHANGES IN THE MATERNAL ORGANISM CAUSED BY PREGNANCY.

The general changes of pregnancy depends upon the changes in the blood and nervous system.

The Blood.

The blood changes in composition and increases in quantity. The watery element, white corpuscles and fibrim increases, its albumen and red corpuscles decreases. Its clotting power is augmented.

The Heart.

The heart, having more work to do, increases one-fifth in weight. There is often palpitation, caused in the early stages from a sympathetic condition, in the later stage by the enlarged uterus.

The Breast.

During pregnancy the breasts undergo a change in preparation for their functual activity. They increase in size and present characteristic changes in structure. They begin to enlarge as early as the second month and after the third month they contain a thin fluid known as colostrum. The superficial veins enlarge and form a blue tracery beneath the skin. The nipples become elongated and prominent and increases

in size and are sensitive and have a soft feel. The areola becomes darker, and the papilla around the

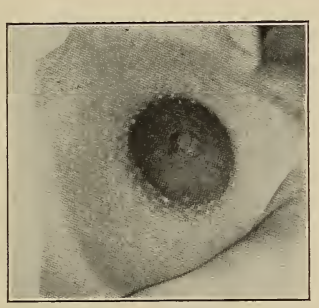

Fig. 11—Breast in pregnancy.

nipple becomes prominent, and the development of the follicles and grandular tissue which gives the breast a knotty feel. At times they are very painful.

The Abdomen.—The abdomen increases in size to accommodate the enlarged uterus, but this is not noticed until about the fifth or sixth month. In the sixth month the uterus reaches the umbilicus or navel, and in the eighth month it reaches the end of the sternum or breast bone. During the last two weeks of pregnancy the uterus sinks somewhat into the pelvic cavity. About the fifth month the navel begins to diminish in depth and about the seventh month becomes level with the skin. During the last two months the navel is often protuberant, caused by pressure of the uterus which forms a rounded elevation. Another condition of the abdomen is the stretching of the abdominal walls which result in the later months of pregnancy in the formation of reddish, bluish and white glistening streaks (strias)

in the skin covering the sides of the abdomen, thighs, and breast, which do not disappear after delivery

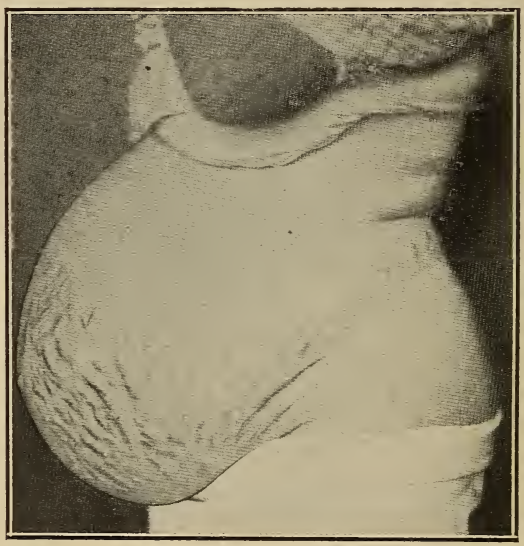

Fig. 12—Striae gravidarum.

but lose their coloring leaving white scars on the skin This condition is found in over ninety percent of pregnant women. They are due to an atrophic condition of all the skin layers, and obliteration of the lymph spaces. There is a displacement and partial rupture of the connective tissue of the deeper layers of the skin. The great stress and stretching of the abdominal wall causes the different layers of the skin to waste or die, as it were, for want of nutrition. This is true, not only in pregnancy, but in any disease which causes the same condition, as Tumor or dropsy. Where ever pigment is found normally it is increased. Thus there is often a deep brown line running from the umbilicus to the pubes.

The Uterus.—The uterus changes in size and shape to accommodate the growing fetus, and about the fourth month contractions are felt. The neck is soft to the touch, and the vulva assumes a purplish blue color, owing to the dilatation of the veins. The external generatives organs are, also, much more developed and prominent.

The Bladder.—The bladder is diminished in size caused by the increased size of the uterus, and as a consequence there is an increased frequency of urination. Albumen in the urine is not an infrequent occurence, due probably in mild cases to a transitory catarrh of the bladder, more common in the latter than in the beginning of pregnancy. Glucose (sugar) is, also found. The urine increases in quantity and is of a low apecific gravity.

The Bowels.—The bowels are usually constipated caused by the enlarged uterus pushing them to each side in such a manner as to compress them.

The Veins.—Edema of the legs and feet, and enlargements of the veins of the legs, rectum and vulva are very common during the latter months of pregnancy; due to pressure and increased vascular fullness of the pelvic vessels induced by pregnancy. If accompanied by a scanty secretion of urine, severe headaches and great disturbance of mind, it is a serious symptom, and should be reported to the physician in charge of the case at once. But if there is no suppression of urine, no mental disturbance or depression, and so long as the veins themselves are not involved they are of little importance. They are often, however, the seat of much suffering. Under

these conditions the patient should be massaged several times a week by a competent Masseuer, and this

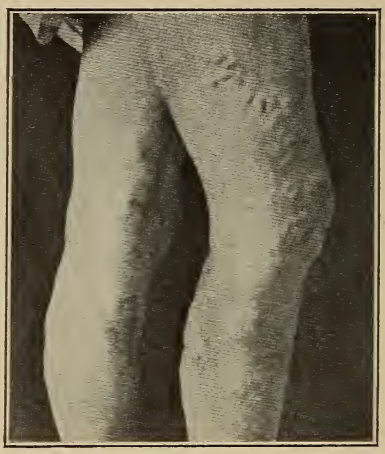

Fig. 13—Varicose veins of the lower extremity in a pregnant woman at term. (Hirst.)

painful and uncomfortable condition can be entirely overcome.

The Liver And The Spleen.—Enlargement of the liver and the spleen are often present during pregnancy. The latter is caused by its relation to the circulatory system.

Cough.—In the earlier months there is often a sympathetic nervous cough.

Lightening.—About two weeks before delivery the uterus sinks somewhat downward into the pelvis, while the fundus falls forward. This is termed lightening. When the head of the fetus sinks into the pelvic cavity. This change of position is followed by considerable relief to the respiration, at the same time there is experienced an increased difficulty in

locomotion, caused by the presenting part descending low in the pelvic cavity. This pressure, also, on the bladder causes frequent urinations.

Respiration.—During the latter part of pregnancy the respiration is somewhat embarrassed and a state of dyspnea is present, caused by upward pressure on the diaphragm by the enlarged uterus; and as the mother must supply more blood the lungs are very active eliminating carbon dioxide and absorbing oxygen so there is considerable relief experienced when the pressure is removed by the presenting part sinking low in the pelvic cavity a few weeks before delivery. The pressure upon the Lungs becomes less, so that the difficulty in breathing is removed.

Quickening.—There is another condition which appears about the middle of pregnancy, the eighteenth week, and it is termed "quickening." It is the earliest movement of the fetus preceived by the mother, when she first feels life. The sensation at first is compared to the flutter of a little bird held in the hand, but the movement becomes stronger and increases in intensity as pregnancy advances. In young mothers these movements often cause anxiety, they are painful and annoying. If they continue the physician in charge of the patient should be consulted.

The Fetal Heart.—We may have all of the above described conditions and still not pregnancy. But the one positive proof we have is the beating of the fetal heart. It is usually heard about the fifth month through the stethoscope. It can be heard later in pregnancy by applying the ear to the mother's abdomen. This furnishes conclusive evidence of pregnancy. The position and place we hear the heart beat-

ing often aids us in determining the position of the child. There are some positions, however, in which it is quite or entirely absent, via, when there is a great deal of adipose tissue, the walls of the mother's abdomen are very thick, or where there is a large amount of amninotic fluid, and in some positions of the fetus. It has been compared to the tic-toc of a watch and ranges from one hundred and twenty to one hundred and fifty beats per minute. It is easy to distinguish from the mother's pulse, and when clearly heard is the positive proof of the presence of a living child.

The Nervous System.—The nervous system undergoes a change. A woman during this period is more subject to nervous influences and should be kept quiet. The most amiable, loving and sweet tempered women are apt to become cross, fretful unreasonable, irritable and despondent. The spirits are often depressed and melancholy in women predisposed to insanity may terminate in mania. But for the sake of both her child and herself she must try and overcome this tendency. Despondency is sometimes caused by indigestion or the accumulation of waste products in the blood. This the physician can relieve. On the other hand there are women who are very delicate and frail, nervous and irritable; and very disagreeable under other circumstances that experience a sense of well being, and are very happy and pleasant during the entire period of pregnancy. The salivary secretions is increased. Neuralgia affection of the face and teeth are common. Pregnancy tests the integrity of every organ in the body.

Nervous Impressions.—Nervous impressions of the mother rarely make impressions on the child, as the

fetus is completely formed at the end of eight weeks; but women should be careful during the early months of pregnancy to prevent miscarriges. Deformities in children are generally due to development of embryonic layers of tissue.

The Duties Of Her Friends.—Her husband and those who are the immediate friends of the patient should do all they can to make her happy. Keep all that is unpleasant from her, and shield her as far as possible from all disturbing influence. Little entertainments that she can indulge in should not be over looked, and pleasant amusement to divert her mind. She should look forward to her delivery with joy and pleasure and not fear or dread. The better a woman's health and strength is during her pregnancy, the better will she be able to pass through the ordeals of labor and perform the duties of motherhood.

CHAPTER VI.

PREPARATION FOR LABOR.

Duration of Pregnancy.—In all calculations of the duration of pregnancy it is customary to assume as the starting point for the reckoning of gestation from the date of last menstruation. While the cessation of the menstrual period is not a positive sign of pregnancy, it is a very important sign where pregnancy exists, as it is the starting point of gestation, and we count from that period. The duration of pregnancy is normally two hundred and eighty days, and we divide this space into ten (luna) months of twenty-eight days each, or nine (calender) months of thirty-one days each, or forty weeks. Another method is to add seven days to the date on which last menstruation began and count forward nine months of thirty-one days each. The date thus obtained is said to be usually correct within a week. Naegele gives the following rule to compute this period: "Count forward nine months from the first day of last menstrua-

tion or backward three months, and add seven days. After February in leap-year add six days." As for example, September 1st, was the first day of last menstruation, count backward three months, which gives June 1st, add seven days which gives June the 8th, as the expectant day of confinement. In first pregnancies, or as we say, in case of primparae, labor is apt to begin a week or ten days earlier than this, as the uterus is not so tolerant of distention as it may afterwards be in later pregnancies. These are not always reliable guides, but are based on the theory that conception is most likely to take place just after the close of the menstrual period. When the date of last menstruation cannot be obtained, we reckon the date of labor by adding twenty-two weeks to the date of quickening which is supposed to occur in the eighteenth week of pregnancy. It is the earliest movement of the fetus preceived by the mother, when she first feels life. But there is no rule or method which will insure accuracy in regard to the day on which labor will occur. The full term of pregnancy normally, is two hundred and eighty days. This may be prolonged to three hundred and yet be perfectly normal.

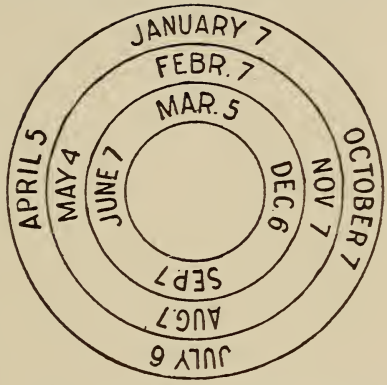

Fig. 14—Obstetric calendar devised by Dr. Wm. L. Kantar of New York will be found useful to nurses in calculating date of expected labor.

Fig. 15—Human embryos from the second to the fifteenth week

The Obstetrical Nurse.—The nurse like the physician should be engaged early in pregnancy, and the best obtainable should be procured. This delicate branch of the profession requires higher skill than any other form of nursing, comprising, as it does of surgical, medical and infant nursing combined For these reasons only the best nurses, those with special aptitude for this particular branch of nursing should adopt this specialty. A certain date is usually agreed upon from which date the nurse is paid her full salary, her time from that date is her patient's and she is subject to her call. It is better, if con-

venient for the patient; the nurse to be with her a day or two before expectant confinement, so as to see that everything is in readiness for the all important event. It is very desirable that the nurse sleep at the house at night after the time has expired, and baby is expected.

Outfit For Mother And Child.—If previous arrangements have been made with the expectant mother, the nurse should make out a list of needed articles so that ample provision may be made. The following list contains the essentials articles, but a more ample and elaborate one according to the means or taste of the mother may be given. The outfits may be divided into two parts. One consisting of articles required for the mother's use; the other the articles needed by the baby.

Outfit For The Mother.—For the mother is needed, one flannel wrapper or kimona of light material, six plain night gowns, four abdominal binders, one and one-half yards long by one half yard wide. These should be made of strong unbleached muslin. The length of the bandage differs with the size of the patent, according to her size. They should be torn the proper length and size and the selvage torn off; as this cuts and binds the tissue. Neither should they be hemmed. Leave the edges raw.

Six breast bandages, the length differs according to the size of the individual. But should be at least ten inches longer than the measure around the bust to allow for the increased width upon the establishment of lactation. The best bandages are those cut like a waist, with arm holes and fitted to the figure as shown in illustration.

One dozen occlusion bandages or "swathe" to hold

the dressings in place. A good quality of outing flannel makes the best bandage for this purpose. It is softer and more comfortable for the patient. These may be hemmed. They should be about one yard long and about ten inches wide. It is best to have the abdominal, breast and occlusion bandages laundered, as it makes them softer and more comfortable.

Six draw sheets or large pads. These may be made of cheese cloth stuffed with cotton, nonabsorbent or raw cotton, about two inches thick. They should be tacked to keep the cotton from slipping, and when soiled can be burned. Or old clean sheets, folded together can be used for this purpose. Large quilted pads can be had at large dry goods stores they are excellent for this purpose. They can be laundered. The pads are used to protect the bed, the first three or four days when the flow is the greatest.

Two pounds of good sterilized absorbent cotton, five yards of plain sterilized gauze in a glass jar. Many pieces of old clean cotton or linen cloths sterilized in the oven, for wiping the anus and perineum during labor. Many physicians prefer the sterilized old cloths to absorbent cotton for this purpose, six clean sheets, these should be as freshly laundered as possible, two dozen towels, old ones that are without fringe are the best, six dozen safety pins, four dozen large and two dozen medium size, three hand brushes that can stand boiling. The best are those with plain wooden backs, costing about ten cents apiece, one pint of alcohol, 95 per cent, for dressing the nipples, and to be used for the patient's comfort, four ounces of fluid extract of witch hazel, one douche pan, the perfection pan is best, a douche pan is preferable to a bed pan as it can be used for either purpose, one small granite pitcher,

holding about two pints, to use in giving the pitcher douches, one bottle of fluid soap, or six ounces of green soap, can be had at any drug store, three granite wash basins, a piece of rubber cloth, four feet by six feet for protecting the bed, white enamel oil cloth may be substituted for the rubber when economy requires, a piece of oil cloth for protecting the carpet by the side of the bed, or old newspapers may be used by spreading them out besides the bed a three quart fountain syringe, a hot water bag, a slop jar or bucket, a tube of white vaseline, one bottle, large size, of bichloride of mercury tablets, for making the solution, one pint of whiskey or brandy, one bottle of chloroform, fluid extract of ergot, three ounces, one pint of sterilized vinegar. Impress upon your patient the importance of having this thoroughly sterilized, both jar and contents, to use in the non-contraction of the uterus or hemorrhage. If you have any doubts as to the proper sterilization of same, it is best to attend to it yourself. And when labor occurs there should be on hand six gallons of cool boiled water, and three gallons of boiling water, and ice in a convenient place in a basin of antiseptic, in case it is needed by the physician. Instruct your patient to have plenty of towels, sheets, pillow cases and gowns. It is so annoying to ask for these articles and find out there are none to be had. Especially towels. Have them within easy reach so if needed after labor can be had without confusion

Outfit For The Baby.—For the baby will be needed a bottle of olive oil, six ounces, for annointing the baby immediately after birth, one pint of saturated solution of boric acid, to be had at any drug store, to use for baby's eyes and mouth. Dilute one-half

when using it. A piece of pure castile soap, one box of talcum powder, two soft sponges of different sizes, small one for the face, and larger size for the body, one skein of narrow linen bobkin tape, for tying the cord, Boric acid powder, three ounces, to use to dust around the cord and umbilicus after the cord is off, one soft hair brush for baby's hair, one powder puff, to brush off all superfluous powder from the body, or a little soft brush like the one used for brushing baby's hair is best, two large, soft bath towels, to wrap the baby in during its bath, four dozen cotton diapers. The cotton is prefered to linen as they are warmer and cheaper. They should be cut so they are twice as long as they are wide. As the "birdseye" comes in two sizes, it is well to have some of each. Several dozen large squares of old clean cloths to put in the baby's napkins the first few days until the intestinal track is entirely free of the meconium. These to be destroyed afterwards by burning. One soft woolen blanket to wrap the baby in immediately after birth, one bath tub or large wash bowl to use as a bath tub for the baby, six flannel binders, eighteen inches long and six inches wide, these like the mother's should have the selvage torn from them, unhemmed, and the edges left raw so as not to compress the tissue, four long sleeve flannel or silk shirts, six flannel pinning blankets, four flannel skirts, six night gowns, eight plain slips, two dozen safety pins, one dozen smallest size and one dozen medium. The foregoing wardrobe is the smallest possible one in which the mother and baby can be kept clean, sweet and comfortable. The mother's and baby's wardrobe should be laid away in separate convenient places where they will be accessible to

both doctor and nurse. Bureau drawers are preferred which have been cleaned and prepared for this purpose. If you cannot have the clothing as you would like, do the best you can under the circumstances.

Selection Of The Room.—The choice of the lying-in chamber is a matter of great importance. If to the nurse is left the selection, choose one that is large, well ventilated and as far removed from the toilet and bathrom as possible; one that can be kept at a uniform temperature of sixty-eight to seventy degrees Fahrenheit, and if possible, one that has the southern exposure. The sunlight is a very important agent in the sick room and should always be introduced when possible. An open fire place is a very desirable feature, as it serves a double purpose, heating and ventilating at the same time. Under no circumstances can a room be used which has been occupied by a patient suffering with a contagious disease or suppurating wound, such as diptheria, scarlet fever, erysipelas or cancer; nor any of the furniture used by such a patient be admitted into the lying-in room. If, however, the bed chamber is used as the lying-in room, and this is generally the customary rule, the unnecassary draperies, ornaments and all superfluous furniture should be removed and the room thoroughly cleaned. The walls brushed down so as to remove any particles of dust, the room well swept, and the furniture wiped with a damp cloth. During the day, if the room is not in use, the windows should be left open so it may be thoroughly aired and ventilated, especially if used as a sleeping apartment during the night. In case an infectious disease has occurred in the house, have the house thoroughly disenfected. If you are with your patient see that these instructions

are carried out. If not expected until labor is imminent, leave instructions with the expectant mother and put stress on their being carried out one week before expected confinement. This will insure more safety for your patient, the cleanlinness of the room and its contents. Freedom as far as possible from germs and dust are of vital importance. The removal of unnecessary furniture will render it more convenient for the doctor during labor and delivery, as it alllows him more freedom. The room, however, should not be made to appear bare or cheerless, and particular attention should be paid to artificial light. The best obtainable should be procured, and a drop light is best for this purpose. Where a coal oil lamp must be used, it should be in good condition and have a reflector.

STERILIZATION.

Labor Pads.—Labor pads, vulva pads, operating gowns and towels may be sterilized by putting them up in separate packages, wrapped in a sheet and securely pinned and steamed one hour. They are dried by placing them in the oven and baking them. Open only when needed. This is, however, not a very satisfactory method. They are hard to dry thoroughly and should be used almost immediately as they will milldew if not perfectly and thoroughly dried It is best to get ready all things necessary, wrap each class of articles in a separate package, labeling each, then wrap all the packages together in a sheet making one large package, and have them sterilized at some hospital. If this is impossible, make your own dressings, using for this purpose sterilized cotton and gauze. In making your own dressings, first clean your hands as for a surgical dressing, then with

a pair of sterile scissors cut the gauze and cotton the size desired for the pads. These pads made in this manner are sterilized and surgically clean, and each pad can be made in this manner as needed. But we must use care to keep them surgically clean. Handle the gauze and cotton with clean hands and instruments. They must be surgically clean. Unroll the cotton and remove the cover from the jar before cleaning and disenfecting the hands. Johnson & Johnson, also, put up two different maternity outfits that are to be recommended, they are the "Simpson's" and the "Cooke." These may be had through any drug store.

INSTRUMENTS.

Rubber sheets or oil cloths may be sterilized by washing off with a one to a thousand bichloride of mercury solution. Rubber syringes and douche bags may be sterilized by boiling twenty minutes in plain water. Hand brushes are sterilized by boiling twenty minutes in plain water. All instruments are sterilized by boiling twenty minutes in a four per cent of bicarbonate of soda solution. The instruments should be wrapped in a towel before placing them on to boil and kept wrapped until needed. The needles should be run through a piece of gauze or cloth, and then rolled up, and should remain so until needed.

Bed pans are sterilized by boiling twenty minutes in a wash boiler or washing them thoroughly in a one to one-thousand bichloride solution.

The basins should be filled two thirds full of water, place one basin over the other, covering in the steam, place them on the stove and boil twenty minutes.

When sterilization of the sheets or labor pads is impossible, boil one dozen towels in a one to a thousands bichloride solution twenty minutes, and with surgically clean hands, according to directions given below, wring the towels out as needed and place them immediately under the buttocks of the patient over the pad. Remove the towels when soiled and replace with a fresh one. This insures safety for your patient and renders the sterilization of the sheets unnecessary. Allow the towels to remain folded when placing them on to boil and only unfold as each is used. For vulva pads for the first five days use first a thin pad of absorbent cotton boiled in a one to five thousand bichloride of mercury solution, or a one per cent of lysol solution. Have the pad large enough to entirely cover the birth canal and hairy region so as to prevent any germs entering the genitals. Over this a large pad of dry sterilized absorbent cotton, or use absorbent cotton wrapped in sterile gauze.

Sterilization Of The Hands.—Scrupulously clean the hands. Scrub the hands and forearms well with a soft brush, soap and water, paying special attention to the finger nails, which should be cut short, and between the fingers, then wash off with plain sterile water. Afterwards immerge them for several minutes in a solution of bichloride of mercury in the strength of one in two thousand. Use all precaution to prevent puerperal sepsis.

OTHER DIRECTIONS.

Other directions than these must come from the physician in charge of the case.

CHAPTER VII.

Labor.—Under the term labor includes the physiological and mechanical process by means of which the removal of the child and its appendages from the body of the mother takes place. The expulsion of the fetus from the uterus either spontaneously or by artificial means. At the end of nine months the fetus is fully developed, and is expelled from the uterine cavity. This process is known as labor. The process should be gradual for the safety of both mother and child. Rapid labor is attended with danger to both. For convenience it is divided into three stages In natural labor the child is expelled spontaneously by the contraction of the uterine and abdominal muscles. After the rupture of the amniotic sack the uterus contracts down directly on the child, forcing and propelling it along the pelvic canal. In mechanical or artificial labor the child is removed from the mother by the use of forceps or other surgical procedure. If such expulsion occurs before the seventh month it is known as abortion or miscarriage; between the seventh and ninth months, premature birth. About two weeks before delivery symptoms of approaching labor manifest themselves. They are false pains, lightening, or the sinking of the fetus head in the pelvic canal, frequent urinations and difficult locomotion. If you are engaged so as to be

with your patient several days before expectant labor commences, you should have everything in readiness so there will be no delay or excitement at the all important time. It is during the first stage of labor that the nurse is often summoned, and she should answer the call as promptly as possible so as to have time to make all necessary preparations for the birth of the child without hurry.

The obstetrical bag of the nurse should contain:

Clinical thermometer.

Bath thermometer.

Chloroform mask.

Medicine dropper.

Graduate medicine glass.

Glass and rubber catheters.

Combination hot water bag and fountain syringe. This is to economize space.

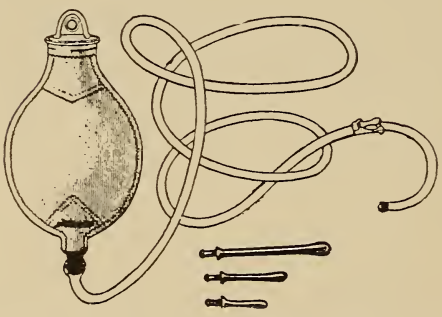

Fig. 16—Combination hot water bag and fountain syringe.

A two ounce bottle of fluid extract of ergot.

A four ounce bottle of chloroform.

Rectal and douche nozzels.

A glass douche nozzel, some physicians prefer them.

A pair of blunt-pointed scissors, for cutting the cord.

Two pair of artery forceps.

A bottle of bichloride of mercury tablets, large size, for making solution.

Two hand brushes, with plain wooden backs that can be boiled.

Narrow linen bobkin tape for tying the cord.

Hypodermic syringe.

Hypodermic tablets of ergotin, strychnine, glonoin, digataline and ergotole.

Small package of sterilized cotton.

Small package, about two yards of sterilized gauze.

Six ounces of green soap.

Boric acid, two ounces.

Aromatic spirts of ammonia, two ounces.

Brandy two ounces.

Collodian, two ounces.

Nitrate of silver, one ounce, in strength of Gr. V to one ounce of water.

Alcohol, two ounces.

A glass graduate, holding about four or five ounces for measuring the urine after confinement.

One probe.

One pair uterine forceps.

A small pitcher or granite cup, holding about a pint, to use in irrigating.

Fig. 17—Infant's scales.

A pair of infant's scales, a nice little pair about four inches long can now be had at most surgical supply houses, costing about fifty cents.

A little hammock, made of soft outing cloth to

weigh baby in. See description and illustration of the hammock.

Fig. 18—Pattern of baby's hammock showing the different parts of same.

Fig. 19—Baby's hammock complete.

A pair of rubber gloves.

A nice little sterilizer, the length of a pair of delivery forceps, and about the width of an ordinary shoe box, can now be had at most surgical supply houses, they are made of copper and are so convenient, saving much time in trying to find something suitable to boil the doctor's instruments in. All of the other necessities can be packed nicely in the sterilizer and thus it does not take up much space. I have found it very convenient.

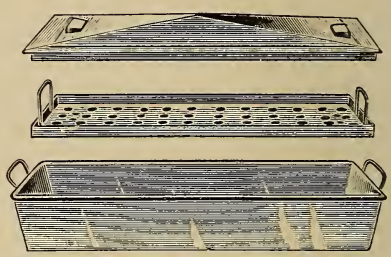

Fig. 20—A nice small sterilizer that can be conveniently carried. Cost $5.25.

A pair of reins, see description of them elsewhere.

A pair of leggins, made of soft outing cloth to be worn during labor.

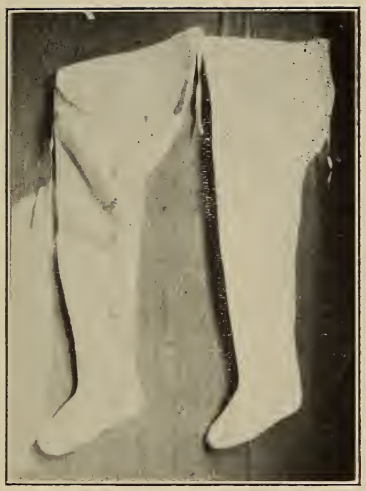

Fig. 21—Obstetrical leggings showing outer and inner side. They are tied with tape back and in front to keep them from slipping down.

Fig. 22—Nurse's or doctor's obstetrical gown.

Three dozen safety pins, two dozen large, one dozen medium.

Two obstretical gowns, two in case one should become very soiled, or in case the doctor may need a second one.

A nail file.

One soft outing flannel apron to be worn while bathing the baby.

Two full uniforms.

A supply of record sheets or bedside records for mother and child.

Three aprons.

Six pair of cuffs, if colored uniforms are worn.

One cap ready to put on.

One suit of underclothes.

Two pair of stockings.

Two nightgowns.

A supply of handkerchiefs, collars and dress shields.

A package of sanitary napkins.

A kimona or wrapper of light material and a pair of bedroom slippers.

Comb, brush, washcloth, soap, towels, toothbrush and powder.

It may seem unnecessary and foolish to attempt such a supply. I have never found it so. Often I have been glad I was so equipped, especially for country practice. It is best to go prepared for emergencies even if we never encounter them. Often life depends upon us being well supplied. Of course, if you are engaged for the case, and your patient has been furnished with a list of what she should have in readiness, it will not be necessary to furnish or carry in your dress suit case the articles mentioned in the foregoing list that the mother may require for her use.

The list is furnished for emergency cases and country practice. The list of articles mentioned for a nurse's wardrobe is not sufficient for an out of town case, the nurse must judge for herself just what and the number of each article needed. It is, also, well for the nurse to have an inventory pinned in the front of her suit case, and place the articles in her satchel in order as they are on the inventory list, in this way she is certain of leaving nothing out that may be needed. Answer an obstetrical call promptly so there will be plenty of time to have everything in readiness for the doctor's arrival without hurry or confusion.

Recognition of Labor.—Certain symptoms proceed the outset of labor, beginning ten days or two weeks previous to it when the fetus descends somewhat in the pelvic cavity. At the expiration of two hundred and eighty days, the average woman experiences a different kind of a pain in the back. They stay a minute or two and then cease. They occur two or three hours apart. Contractions of the uterus takes place, and the uterus and abdomen gets very hard and tense. As labor approaches the pains become more and more severe and the neck of the womb gets larger. If you would make an examination, you will notice as the cervix stretches the neck of the womb gets thinner and thinner until it disappears and only a thin ring remains. As soon as the nurse arrives at the house of the patient, she should ascertain if labor has really commenced. That is, of course, if the physician has not been summoned. Sometimes a patient is deceived by false pains, and the sudden emptying of a full bladder involuntary is sometimes mistaken for the amniotic fluid. The accurate recognition of labor is a very important thing for a nurse to know. To

ascertain if a patient is in labor or not, place her on her back on the bed. Place your hand on the abdomen. If labor has commenced the uterus can be felt to contract and relax at almost regular intervals. If labor has not commenced the contractions will not be very pronounced, and if the amniotic sack has ruptured the uterus will assume more the shape of the child, and lose its globular form. The nurse can tell pretty well of the progress of labor by the regularity and severity of the Uterine contractions, and as soon as she is certain from the character of the pains that labor has commenced she should notify the physician in charge of the case. He may not respond at once, but it is only just and proper he should know his patient is in labor so he can arrange his time and engagements accordingly, and be ready to come, and the nurse know where to find him when needed. In notifying the physician the nurse should tell him how long labor has been going on, how severe the pains are, and how often they occur. As soon as the physician has been notified, the nurse should begin to arrange the room for labor which should be clean and warm, and ample preparations for delivery and after care should be made with strict attention to aseptic details. If labor occurs at night, ample provision for lighting should be made. The best artificial light obtainable should be procured. A drop light is best.

FALSE AND TRUE LABOR PAINS.

True Labor Pains.—The symptom of labor which is noticeable to the patient are pains in the lower portion of the body. Expulsive uterine contractions. True pains usually begin in the back, and occur with a regularity almost perfect. In the first stage of labor this pain begins in the back and extends gradually

around the body to the pelvic region. These pains are at first faint but annoying, but they became more and more severe as labor proceeds.

False Pains.—False pains occur at irregular intervals. They are chiefly confined to the lower front and sides of the abdomen, never extending around to the back, they are short and ineffective, and are never accompanied by any actual bearing down sensation. They are very often caused by constipation. A saline enema will usually give relief.

THE DIFFERENT STAGES OF LABOR.

First Stage.—The first stage of labor is the dilation of the cervix. This is a gradual process. It begins with the first pain and lasts until the full dilation of the os. As the os internum opens, the contractions

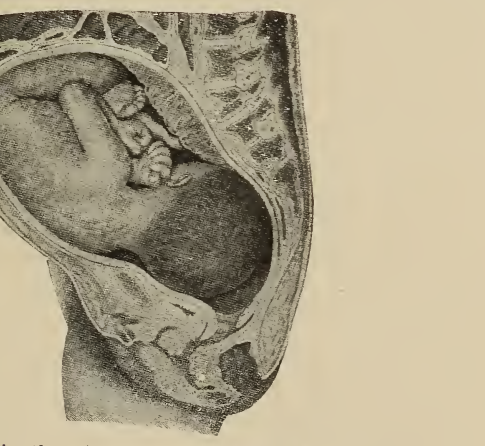

Fig. 23—Child in the uterus at the beginning of labor.

causes the membranes to descend and press upon the cervical canal. The effects of the uterine contractions is felt directly on the amniotic sack or bag of water in which the child is enclosed. The cervix being the

point of least resistance, when the uterus contracts it forces the amniotic sack in the direction of the os, from within outward. This bag of water has very important functions. First it dilates the cervix and vagina evenly and safely; secondly, it protects the baby from injurious pressure on any one part, because when the uterus contracts, the force exerted presses equally in all directions, and after rupture it lubricates the downward passage, making the child descend with less effort, and lastly it flushes the vagina, and in case there is infection present, it washes it out, preventing it getting into baby's eyes. With the advance of labor the pains increase in intensity and frequency. Each succeeding pain increases the dilatation. In true labor the dilatation progresses gradually. An examination at this period we could easily define the orific of the uterus; the border of the os or ridge slit lip like opening of the uterus. This ridge becomes well marked. At first it simply separates; a slit-like opening; gradually it assumes a circular shape. Labor then progresses more rapidly. With each new pain the amniotic sack is pressed down which produces a gradual and even dilatation which continues until the tissues are fully relaxed. During this process the cervix is often slightly lacerated, and the mucus discharge becomes tinged with blood. This is called the "show." If there is much pure blood with the show, it is abnormal and the physician should be informed of the fact. The show may occur both before or after the rupture of the amniotic sack. Sometimes it is the first warning a patient has of approaching labor, the sack does not rupture until a few hours before delivery. Then again the sudden rupturing

of the amniotic sack is the first warning to the patient, the show does not appear until afterwards. The bursting of the amniotic sack often occurs suddenly, and a quantity of water, varying from a few ounces to several pints escape. Young patients, sometimes, become very much frightened when this occurs for want of knowledge of what is taking place. So it would be wise for the nurse who has a patient pregnant for the first time to explain this condition to her. I know of two cases where the patient looked forward with terror to her approaching delivery, and after they were well and up again told me how they suffered and how frightened they were because of ignorance. They thought an incision was made in the abdomen and the child extracted in that manner. This only illustrates to us how often a patient must suffer for want of knowledge that a little thought on the part of the nurse may save them. The length of this stage varies a great deal from three to ten hours (Professional experiences). During this stage there is nothing the physician can do, and the nurse employs the time in getting ready for the birth of the child. The bursting of the water or the rupture of the amniotic sack usually marks the end of the first and the beginning of the second stage of labor. When the os is sufficiently dilated the bag usually ruptures and the amniotic fluid escapes. After this the head descends into the vagina.

The Toilet of the Patient for Labor.—As soon as labor begins give the patient a warm soap suds enema followed by a warm pitcher bath. This is accomplished by the patient standing in the bath tub. The body is well drenched with warm water. To accomplish this use either a hand spray or pitcher. Then

with a bath brush or crash mitten or cloth and green soap all portions of the body are briskly lathered. Particular care is given the area between the ensiform cartilage and the knees. The patient then stands under the shower again and all lather is thoroughly removed with friction. Either hand spray or pitcher being used. The tub bath is not considered so sterile a procedure as this one, in fact it is now considered a means of infection. The particles washed off of the skin into the water, and the patient sitting in a tub of dirty water it is possible for infection to enter the vagina and cause trouble. If circumstances will not permit the pitcher bath, give a general sponge bath. If it is an emergency case, and there is no time for even a general sponge bath the lower abdomen, buttocks and genital organs MUST be thoroughly cleaned and disinfected. It may, also, be necessary to use the catheter, owing to the closure of the urethra by pressure of the presenting part. This is, however, not a frequent occurence, and when it is necessary the physician should always be consulted, and great care must be exercised not only to have everything surgically clean, but that the secretions of the vagina do not come in contact with the Catheter or you may have serious trouble. The catheter is seldom used, the patient generally voids urine involutarily. Never give a vaginal douche unless directed to do so by the physician in charge of the case, and the nurse should never make a vaginal examination unless told to do so by the attending physician, and before making a vaginal examination the nurse's hands should be cleaned as for a surgical operation, according to directions that have been already given or sterile rubber gloves worn. The vulva should, also, be cleaned as

a field of operation, as the danger of carrying infection is great. After her bath the patient should have a clean night gown on. Her hair should be combed and braided in two braids. Then have your patient lie on her back in bed, place the douche pan under her, and scrub the lower abdomen, thighs, buttocks, perineum and genitals with green soap and a soft brush or gauze, and particular attention should be given to the removal of any smegma from the clitoris. The hair around the vaginal opening should be cut close to the skin, or better still, if the patient does not object too strongly, the vulva shaved. Then in case of a tear in the perineum there is no delay in repairs, it is easier to keep clean, and less danger of infection in case there are stitches. Care must be taken that no wash water or other solutions runs into the vagina, and in washing the anal region a cloth or cotton pleget that has passed over the anus must not be used around the vulva orifice, but should be thrown away, and a clean one used. The douche pan should now be removed and emptied and replaced under your patient and she should remain on it while the nurse cleans her hands, according to directions already given. The cleaning of the hands requires about five minutes. After washing and disinfecting the hands throw the covers off of your patient with the elbow so as to avoid soiling them. The covers should have been previously arranged so this may be done. Now wash the patient's genitals, lower abdomen, perineum and thighs in a one to two thousands bichloride of mercury solution, using absorbent cotton. After cleaning all parts antisepticly, the vulva pad is applied. It is made of dry sterilized cotton held in place by a T-

bandage of gauze or cotton. It is to protect the parts and absorb any discharge that may escape from the vagina. A pad once removed must never be replaced, no matter if it is perfectly clean. And the patient should be warned not to touch the parts or sit on the water closet after this preparation. Wipe the other parts dry with a clean towel. The patient may now be dressed in her night gown, stockings and slippers and a bath robe or kimona or wrapper of light material and allowed to sit up or walk around the room until the pains become severe enough to confine her to her bed, or until the rupture of the amniotic sack. It is best to encourage the patient to walk around until the amniotic sack ruptures as it favors the descent of the child's head in the pelvis and thus assists nature in rupturing the sack. If the pains are severe and change from the back to the front, the patient should be put to bed before the membranes rupture, if the event can be anticipated. As the body in the upright position when this occurs there is more danger that the umbilicus cord will be washed down in the gush of water.

Second Stage.—The second stage of labor is the expulsion. Beginning with the full dilation of the os and ending with the expulsion of the child. During this stage the pains become more severe, and uterine contractions are stronger. After the rupture of the amniotic sack the cervix usually contracts but yields readily to pressure and offers no resistance to the presenting part. For these reasons a patient should not leave her bed from the time labor reaches the second stage, which is generally after the rupture of the amniotic sack, and the pains become severe and change from the back to the front. Each pain in-

creases the dilatation of the internal os. As labor advances the pains increase in intensity and frequency. In the beginning of labor the pains are about an hour apart, the intervals decreasing gradually. After the amniotic fluid escapes the uterus contracts down on the child direct, and the patient experiences a desire

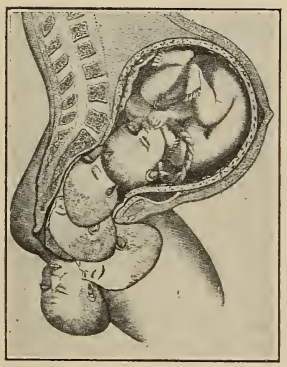

Fig. 24—Diagram showing the advancement of the head through pelvis. (Lushman.)

to strain and bear down. The pains continue until the cervix dilates, and the child descends into the pelvic cavity and is expelled. The first pains are described as grinding; later as cutting and bearing down; this is when the child descends in the pelvis. Pains at the expulsion of the fetus is described os tearing. After the rupture of the amniotic sack, which usually occurs spontaneously late in the first stage of labor, the water in front of the child's head escapes, although a greater part of the amniotic fluid is retained within the uterus by the presenting part. This fluid lubricates the downward passage of the child, making labor less tedious, as it enables the child to descend with less effect. After a time the head

descends into the cervix. This is the slow part of labor when the head comes down in the pelvis. The pains are now bearing down, tearing and hard. In case the membrane have not ruptured and the fetus descends to the vulva, it should be gently ruptured with finger-nail. But never should this membrane be ruptured until the presenting part is visible at the vulva. If ruptured while the child is in the cervix, the dilating factor is removed and labor is slow and tedious. In some cases the rupture occurs near the child's neck and the head is born covered with so-called "caul" or veil, which is considered by some old ladies as a lucky omen, which are only particles of detached membrane. There are cases where the child has been delivered without even this sack being ruptured. In rare cases where the fetus is small, and the amniotic fluid is limited, the entire ovum may be expelled without rupturing of its coverings. Such a case is termed dry delivery. In such a case rupture the sack and take the child out immediately; if it should breathe it would drown. Remember to use only the finger-nail in rupturing the sack. Any pointed instrument might injure the child. In some cases the rupture of the membranes take place twenty-four to thirty-six hours before the birth of the child. Then we have what is termed dry labor. This is very undesirable, the labor is slow, tedious and painful. In such a case the patient should be kept in bed on her back and a pillow placed under the hips to elevate them to prevent further escape of the little fluid that may still remain in the uterus. Sometimes a full bladder emptied suddenly is mistaken by the patient for the amniotic fluid. To distinguish between the two, if the sack has ruptured the watery discharge will con-

tain small particles of cheesy substance, vernix casesa, which is the same substance that is found on the body of a new-born infant. If urine, it will be clear, no particles present. The lying-in patient should be clothed only in her night-gown. This, during labor, should be folded up neatly under the arms out of the way, and pinned with a safety pin. Better still, a short sacque night-gown be worn during labor. Long leggins made of light weight flannel should cover the lower extremities and a sheet pinned around the waist in skirt fashion which can be lifted or thrown back when the doctor wants to make an examination. The patient should not be permitted, as a rule, to leave her bed after the rupture of the amniotic sack and the pains become severe, not even for the evacuation of the bladder or bowels, and under no circumstances should the water closet be used by a patient after the commencement of labor. After the patient's toilet a sterile slop jar or chamber is used in the confinement room, and a sterile bed pan is used in the confinement bed. When a patient gets so far advanced in labor that she remains in bed a bichloride pad, a large piece of sterilized absorbent cotton, wrung out of a one in two thousand bichloride of mercury solution is used to cover the genitals. This pad should be large enough to entirely cover and protect the birth canal. It is held in place by a T bandage, and should be kept on until the head of the child is visible at the vulva. When it is necessary to change the pad, which must be done as often as it becomes soiled, the hands of the nurse should be prepared and disinfected as for a surgical dressing. After the rupture of the membranes the pains become stronger and more frequent. With each new pain the child makes

preceptible progress, retreating, however, when the pain declines. There is no use for the mother to bear down until the head is in the pelvis, it simply exhausts her strength; the vagina must first be distended, the head then descends. It slips back, slips down and back again. This is natures prevention against a tear. If it descended in haste and rushed through, it would tear the perineum. The head rotates, and as it were, feels its way. When the pains become severe, firm pressure against the back during a pain usually gives relief. At this stage the patient should never be left alone, and the nurse should use every means to comfort and reassure her patient. At this period the pains are severe and regular, followed by short periods of absolute rest and quiet. The patient usually falls into a light slumber which is nature's protection against exhaustion. When the pains occur as often as every ten minutes the physician should be sent for, of course the distance he has to come must be considered, and if it is great and in second and later labors send sooner. But this degree of frequency is an indication that the second stage of labor has reached the period when the presence of the physician is desired. The pains are now bearing down, tearing and hard.

The attempt of nature to expell the uterine contents. The patient may now be allowed to pull upon a sheet fixed to the foot of the bed or the hands of the nurse. A good thing I use and always carry with me on an obstetrical case are "reins." Below is a description of these "reins." Try them and you will be pleased with the results. They are so much superior to a sheet. It should not be used or the patient allowed to use a tractor after the head reaches the

perineum. As the birth of the head should be rather restrained than hastened to avoid a perineum tear. When a true pain occurs instruct your patient to take a deep inspiration, hold her breath and bear down as if encouraging an evacuation of the bowels. The feet should rest with the soles flat on the bed, the reins are adjusted the proper length by tying firmly to the foot of the bed or springs, and the upper extremities, by the use of the reins, finding secure fixation, the effect is twofold, the patient suffers much less, reaps the full benefit of her pain and labor is thus shortened. The average duration of a labor pain is one minute. The average length of the second stage of labor is about three hours. The uterine wall is muscular tissue, and each pain at birth means a contraction.

Preparation for the Bed.—While the patient has the freedom of her room during the first stage of labor, the nurse should prepare the bed. Cover the mattress, which should be a flat hair mattress. Avoid feather beds. The mattress need not necessary be made of hair, but should be a good, comfortable, firm mattress. Cover the mattress with a sheet. Always allowing plenty of sheet to be tucked under the mattress at the top, as it will have a tendency to slip downward, and fasten it at the corners with safety pins. Over this clean sheet place a rubber sheet or piece of white enamel oil cloth, which should be firmly pinned to the mattress. Cover the rubber sheet with another clean sheet, and over this is placed the labor pad. Some physicians use a Kelly pad. Place the pad on the right side of the bed, midway betweeen the head and the foot of the bed, so that the patient's buttocks will rest on the center of the pad, and it should be well

over the edge of the bed so as to protect the mattress on the side. All linen and bed clothes used on the parturient woman's bed should be freshly laundered. The bed should be placed so as to get the best light possible.

A Good Labor Pad.—A good labor pad is made as follows: Take a clean sheet, if you can obtain an old one that can be burned afterwards, the better. Fold it four times, that is, lengthwise and then crosswise, making a square. Spread it out on the table, take newspapers, lay them lengthwise and crosswise, so as to hold the pad together. That is, unfold them their full length, place two, thus unfolded, side by side, lengthwise. Then lay one lengthwise across the bottom of the two thus lying lengthwise, overlapping them about two inches, this makes the pad complete and holds them firmly in position. Continue so until they are about two inches thick, then turn over the edge of the sheet several inches, and tack it or pin it with safety pins. Sewing is preferable to pinning, and if you find the paper seems to slip, tack it here and there to hold it in position. If pins are used, pin as often as it is necessary to hold it in place. This pad is large enough to receive all discharges on the birth of the child, and at the conclusion of labor it can be removed and burned, leaving the bed nice and clean.

Directions for Making the Reins.—They are made of bleached muslin. Take three and a half yards of heavy bleached muslin, about the same quality and weight as sheeting, about one yard wide; tear it through the middle. Now sew the ends together on a sewing machine. This makes a length of seven yards. Now fold this through the middle, lengthwise, four

times; turn in the raw edges and sew firmly all around. It is best to sew the edges twice around on a sewing machine. This makes a pair of reins seven yards long, six or seven inches wide and four thicknesses, and it is quite an improvement on either the sheet or the hands of the nurse, as the patient can, when they are adjusted to the proper length, by tieing them to the foot of the bed or springs, pull on them evenly and get the full benefit of the pain, and the nurse is seldom called upon to loan herself, or strength, as a tractor. Try them and you will be pleased with the results.

Preparation for the Doctor.—Having prepared the bed for your patient, the next thing to do is to see that everything is in readiness for the doctor. On a table at the right side of the bed the following articles should be arranged in completeness.

Fluid extract of ergot, and a graduate glass or teaspoon to use to measure or administer it in, in case of hemorrhage.

Chloroform and mask, ready when needed.

A bottle of bichloride of mercury tablets, (large size), for making solutions.

A sterile douche bag and nozzle, ready if the doctor should ask for it after the delivery of the placenta.

A bottle of liquid soap or six ounces of green soap.

A hypodermic syringe in completeness, with tablets of strychnine, ergotin, glonoin, digitaline and a vial of ergotole, and a small bottle of sterile water for making the solutions.

One pint of sterile vinegar, to use if necessary to secure the contraction of the uterus.

Three sterile granite basins, large size is best.

Three sterile hand brushes.

A tube of white vaseline to lubricate the hands.

Small box of boric acid powder.

A cup of saturated solution of boric acid, for baby's eyes and mouth.

A cup or saucer with small plegets or little cotton balls for wiping baby's eyes, immediately after the the head is born.

A one-ounce bottle of nitrate of silver solution, grains V to one ounce of water, also a clean medicine dropper to use in dropping the solution if the physician thinks it necessary to use for baby's eyes.

A bottle of olive oil, to anoint the baby immediately after birth.

Six dozen safety pins, four dozen large, two dozen medium size.

Sterile linen bobkin tape for tying the cord.

Two pair of sterile artery forceps to use in an emergency, they can be clamped on the cord if an emergency arises, the cord is severed, and tied later on.

One pair of sterilized, blunt-pointed scissors, for cutting the cord.

One pound of good, sterilized, absorbent cotton.

One dozen towels, boiled in a one to two thousand bichloride of mercury solution to place immeditely under the buttocks of the patient over the labor pad. When towels cannot be had, the infant's napkins may be sterilized and used for this purpose.

An abdominal binder, for the mother's use.

A nail file, for the doctor's use.

An obstetrical gown, for the doctor to wear during labor and delivery.

A clean slop jar or bucket should be placed in a convenient place to receive the waste and water.

A clean vessel to receive the placenta; a clean

chamber with a lid is best for this purpose. Place it under the right side of the bed, and it can be had without trouble when needed.

A small foot tub to receive soiled cotton and linens.

Have plenty of hot and cold water so solutions can be made immediately upon the arrival of the doctor. Never keep him waiting. There should, also, be ice in a convenient place, so it can be had immediately should the doctor need it.

Preparation for the Reception of the Baby.—In a convenient place, the baby's cradle or bed should be placed the woolen blanket that is to receive the child. A napkin is folded and placed in the blanket in such a way that when the baby is placed in the blanket, it can be placed on the napkin; the ends drawn up between the legs, as you would arrange a napkin to put on a baby, so in case the infant's bowels move, it and the blanket would be protected. It is to protect the blanket as well as for baby's comfort. If the child's bowels move and this precaution is not taken, the infant's body becomes smeared and soiled, also the blanket. The meconium is difficult to wash out and often leaves a permanent stain in flannel. A nurse ought to be careful of these little details, they mean so much. One of the squares of old clean cloths is put in the napkin, so as not to soil or stain it either. The hot water bag is then placed in it to keep it warm until the little stranger arrives. These are the duties of the nurse during the first stage of labor, and she should have all in readiness so

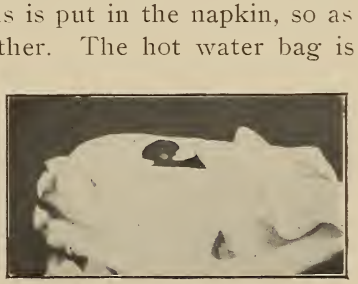

Fig. 25—Blanket with hot water bottle awaiting the arrival of the little stranger.

there will be no delay or confusion at the time her services will be needed by the physician. After all is done in preparation devote your whole attention to your patient. Do everything possible for her comfort. Give her sympathy and encouragement.

The Position of the Child.—While the nurse should never make a vaginal examination without orders from the attending physician, as soon as she reaches the home of the patient she should make an external examination of the abdomen and try and outline the position of the child, so as to have an idea of the position and presentation in case the physician does not arrive in time. It is often desireable that the nurse be able to tell if the presentation is normal, especially is this true in country practice. To make an external examination, place your patient on her back on the bed. Ask her to take a deep inspiration, and when she exhales, by pressure, placing both hands on the side of the abdomen, the nurse brings the the large uterus between them, and the outlines of the child can be plainly discerned. If the greatest diameter lies paralelled with the mother, the same direction, the fetus in longitudinal, and if the child is longitudinal, the child lies either head or breech presentation. To make sure which part presents, the nurse places her hands on the lower abdomen and presses with her finger tips until she fells the lower extremity of the fetus. If it is round and hard, it is the head; if it is soft and uneven in shape, it is the breech. And by placing both hands on the sides of the abdomen and pushing inward, alternately, the nurse can determine the child's back, which is the most resistive side. The head is recognized by its

hardness and rounded form; the back is soft and even; while the breech is of an uneven shape, smaller in size and softer in consistence. The feet are extended so as to come in contact with the legs and are situated upon the abdominal sides of the child and like the forearms, they are often crossed. The arms are crossed upon the chest. The child in the uterus

Fig. 26—Side view of the fetus, showing the attitude it holds in the uterus.

Fig. 27—Front view of the fetus, showing the attitude it holds in the uterus.

is folded together. The legs are bent on the thighs, the thighs are flexed on the abdomen, the forearm on the arms, the arms across the chest, and the head bent down over the breast.

It is easy to distinguish between the amniotic fluid and the child. The fluid is soft under pressure, and even presenting no distinct parts. After the rupture of the amniotic sack, the child gradually descends in the pelvis. In natural labor the head presents; it being the heaviest portion of a body floating in water. The first position is the occiput to the left and in front. If this position is maintained during labor, the larg-

est diameter of the child's head will correspond with the largest diameter of the mother's pelvis, and thus facilitates an easy delivery. The second position, the occiput to the right and in front. The largest diameter of the infant's head corresponding to a diameter of the pelvis, which is a little less than the first position, labor is, usually, a little longer. These are the normal and most common positions. There is, too, the breech, foot and arm presentations. These are usually longer deliveries and more dangerous to the life of the child. With these points a nurse can easily construct the diagnosis. This examination should be made, however, before labor has commenced, as it is almost impossible to make it afterwards. Any manipulations after the commencement of labor will cause a contraction: The uterus becomes so tense it is impossible to feel the fetus and usually the mother is too nervous. So after the commencement of labor an external examination is almost impossible.

The Duties of the Nurse After the Arrival of the Doctor.—After the arrival of the doctor, he will of course, take charge of the case and the nurse's duties consists, then in carrying out the doctor's orders and watching his and the patient's wants. No one should be allowed in the room of a lying-in patient, but the physician and his attendants. On the arrival of the physician he will want to make a vaginal examination to ascertain the extent of the dilation, and the progress the patient has made. The nurse should have ready three sterile basins; one to use to scrub his hands in, with liquid or green soap, brush and water. Another with plain sterile water to rinse the soap well off his hands, and in the third basin a solution of bichloride of mercury in the strength of one

in two thousand for disinfecting his hands as an antiseptic precaution. See that everything is ready: basin, soap, brushes, water and the solutions. After all is ready for the doctor prepare the patient for examination. Some physicians prefer the running water in bathroom for the cleansing of their hands; in such cases it will only be necessary to prepare the solution.

Patient prepared for doctor's external examination.

The Preparation of the Patient for Examination.—For external examination the patient lies on the right side of the bed, close to the edge; the sheet is folded back so that the edge just reaches to the pubes or lower extremity of the abdomen; the night gown is folded neatly over the chest and covered by a towel, leaving only the abdomen exposed. The physician, by palpitating the uterus, determines the position of the child.

For Internal Examination.—After the external examination, and the physician determines the position of the fetus, he will want to make an internal examination to ascertain the extent of dilation. The bed cloths are neatly folded over the footboard of the bed. The patient lies on the right side of the bed with limbs drawn up and separated. A sheet is unfolded and thrown with its center over

the pubis, on the bias, the opposite corner is brought down so as to form a flap between the knees, the other corner covering, the same way, the upper part of the body. If leggins are worn it is not

Fig.29—Patient prepared for doctor's internal examination.

necessary to wrap the legs with the sheet; if not worn the two other corners are drawn around each leg to cover them. The nurse, after cleaning and disinfecting her hands as for a surgical dressing, removes the pad with a piece of sterile cotton or gauze, or a pair of sterile forceps. She then washes all discharge off with one to four thousand bichloride of mercury solution, or a one per cent lysol solution and applies a fresh pad. When the dctor is ready, remove the pad and arrange the bed clothes with as little exposure as possible. While the examination is being made, the flap of the sheet is dropped over the arm of the examiner. If the skirt sheet is worn it is used and adjusted in the same way. Have ready a tube of white vaseline to lubricate the hands of the

doctor. Be very careful in pouring it on his hands that it does not come in contact with any foreign object. Always wipe the edge of the bottle or tube off with a piece of cotton wet with a one to two thousand bichloride solution, and after wiping off the rim, pour a little out over the rim or edge before pouring it out over the doctor's hands. After the examination is made the parts are washed again with a bichloride of mercury solution and a sterile pad applied. All these precautions are taken to prevent infection.

The Instruments.—All instruments required in each case are, of course, furnished by the physician, and on his arrival he hands to the nurse, whatever he thinks he will need in each case, for sterilization, which is boiled for twenty minutes in a four per cent bicarbonate of soda.

As labor proceeds the cervix retracts, and the head descends into the vagina, the part of the head first reaching the perineum rotates to the front and is brought under the pubic arch. Further descent of the head causes the perineum opening to be distended. Descent and extension or flexion, as the case may be, causes the head to pass out over the pubic arch into the vulva. The pains are now about a minute apart and are bearing down, tearing and and hard. The bones of the cranium are soft and yielding. They are united only by membranes so that when pressed together they can overlap. The lower part of the uterus is called the cervix; this part dilates and stretches. while the vagina and pelvis dilate and relax to allow the passage of the child. If the child be large and the tissues do not dilate readily, then lacerations may occur. The patient may now be placed either on her back or left

side. Most accouchians in this country prefer the back. Should the abdomen become relaxed and the child recline too far to the side of the abdomen, the nurse should support it with her hands, especially during a pain. Some authorities advise the use of a bandage and tightened as labor advances. This supports the wall of the abdomen and promotes expulsion with less effort. So, in the the absence of the physician, the nurse must watch and guard against this condition, and support the abdomen with her hands during a pain if she notices this condition present so as to assist most effectually the work, and by keeping the child in the medium line, the abdominal contractions can exercise a greater influence in the expulsion of the child, when a patient is delivered on her side, a pillow, protected by a rubber case, or several newspapers wrapped around the pillow to protect it from being soiled by the discharges, over this a sterile cover or slip. If a sterile one cannot be procured, use one boiled in a one to three thousand bichloride of mercury solution, or one of the towels that has been so prepared. The pillow is folded and placed between the patients legs to separate them. Instruct your patient to bear down only during a true pain, otherwise she is apt to do so with every little pain she has and thus exhaust her strength. At this stage of labor a large pad of sterilized absorbent cotton, wrung out of a bichloride solution in the strength of one in three thousand, as hot as can be borne, is placed over the entire genitals, be sure it covers all parts. This is changed as often as it becomes cool. The application is very soothing and aids in the dilation of the vulva. It should be continued until the birth of the child. Here the clothing is generally thrown back;

the legs wrapped around with a sheet or long leggins are worn, the doctor watches the progress of labor, and it must be remembered that while the patient must not be exposed more than is necessary, nothing unsterilized must come in contact with the genitals; so sheets, unless sterilized must be thrown back so as to touch neither the patients genitals nor the surgeon's hands. The nurse should watch the rectum for any discharges. If the enema does not completely empty the bowels, as the child head descends it presses on the bowels and forces the contents out, and if the discharge gets into the vagina there is great danger of infection. The discharge from the anus should be received in a large pad of sterilized absorbent cotton or old, clean, sterilized linen, after which the vulva and perineum should be washed with cotton and a one to two thousand bichloride of mercury solution, wiping from the vulva

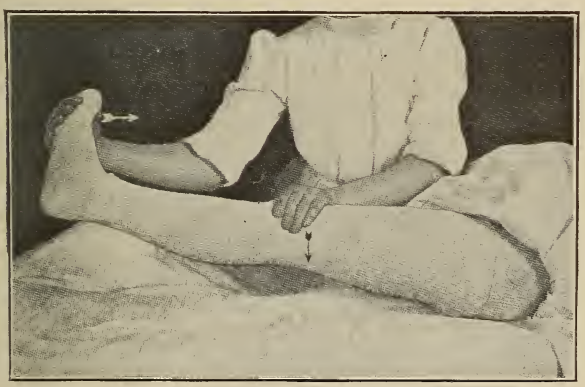

Fig. 30—Nurse curing cramps in leg during labor.

towards the anus, using a fresh piece of linen or pad of sterilized cotton each time.

Should cramps in the legs occur, straighten the

legs and pull the foot towards the knee and rub upward gently. This generally relieves this distressing condition. The nurse should see that fresh solutions for the doctor's hands are always ready; that all soiled and bloody linens are removed and kept out of sight as much as possible. For this purpose the small foot tub is used. It should be placed as much as possible out of the way and sight so as to receive them. The pains becoming very severe, occurring every thirty seconds, the parts become greatly distended. The head, which always presents in normal labor, becomes plainly visible at the vulva and during a pain bulges forth. The patient complains of a tearing sensation. It is at this stage that chloroform is generally given. There need be no fear of the result when it is used or its use is advised by a competent physician. As a rule chloroform is not given during the earlier stages of labor, because when given at too early a period it has a tendency to weaken the contractions of the uterus and thus retard labor. To administer the chloroform for the attending physician usually falls to the duty of the nurse in normal cases, but she should have it understood that the physician assumes all responsibility.

How to Administer the Chloroform.—Remove any foreign body from the mouth of the patient, annoint the face, lips and chin with vaseline or olive oil to prevent burning by the chloroform; the eyes are shielded by a folded towel to protect them against the irritating action of the drug. Just as the pain comes on, fifteen drops of cholorform is dropped on the mask or napkin, and the mask or napkin wet with choloroform is held over the nose and mouth of the patient at the beginning of a pain.

After a few minutes fifteen drops more is dropped on the mask or cloth, and the gauze or cloth with which the mask is covered should be kept wet as long as the pains last. Give the anesthetic only during a pain. As soon as the pain is present ask your patient to breathe deep and long, then give the chloroform promptly at the beginning of the pain and remove the mask as soon as the pain ceases. The doctor generally tells the nurse when he wishes the choloroform given, and the nurse watches the doctor for instructions as to whether he wishes more or less anesthetic given. The object is simply to blunt and lighten the pains of labor, and not to remove them. Mild anesthetige is the object aimed at. It is, however, pushed to unconciousness, during the passage of the child's head over the perineum, but ceases immediately the head is born. In administering the choloroform, it should be remembered that to be taken in safety it should be diluted with ninety per cent of air. So care must be taken not to let the inhaler or mask approach the face too closely, not closer than two inches, as it would thus exclude the air. When ether is used, there is danger of explosion, and if there is a fire in the room choloroform should be substituted. Most physicians use chloroform now. It is a merciful plan and when given at this stage works perfectly. It is never given while the pains are high up as it would stop the progress to some extent. Should the patient begin to vomit, turn the head immediately as far as possible to one side, to allow the vomited matter to escape from the mouth. Towels should have been prepared for such an emergency, and within easy reach. The patient's mouth should be wiped off and a fresh towel placed

under her head. In the absence of an inhaler or mask, the drug may be administered on a handkerchief or napkin. Drop the chloroform on it and hold it about two inches from the patient's nose, and in the absence of a dropper the cork is cut, a small portion being removed from the side, and the chloroform is dropped from it. And an excellent inhaler is made as follows:

To Make the Inhaler.—Take a piece of writing paper, fold it cone shape and have it large enough to cover the patient's nose and mouth. Cut the peak or point off. Insert a piece of absorbent cotton in the cone. Drop the chloroform in at the small or funel end. The point being cut off the chloroform falls on the cotton, and the large end or base being over the patient's mouth and nose acts perfectly. This makes an excellent mask. Care must be taken that the inhaler does not touch the face or exclude the air as instant suspension of respiration may result therefrom.

After the head is born there is a cessation in labor for a brief period, when other uterine contractions again occur when the shoulders and the body of the child is born. The shock of expulsion and the cooler air causes the child to gasp and catch its breath, and it soon cries lustily. Thus the child is born gradually and the patient in the unconscious state is perfectly quiet, and the possibilities of lacerations are lessened. In case of a tear of the perineum, it should be closed by sutures immediately after the birth of the child, or otherwise, some portion of the birth canal will sag, and the support of the uterus being weakened, the uterus may assume an abnormal position and cause the patient a great deal of discomfort and suffering.

To Assist the Doctor in Preserving the Perineum.—During the passage of the child's head over the perineum, the nurse is often called upon by the attending physician to aid him in preserving the perineum. To do so take a sterile towel and as the head advances protect the perineum by making firm upward and backward pressure against the occiput. This diminishes the tention in the medium line where rupture usually occurs. Sometimes the parts will not dilate, but tear, or the physician to prevent a tear cuts the skin one eighth of an inch each side. This operation is called "Episiotomy." It is sewed after the birth of the child. As soon as the child's head is born, a slight pause occurs during which the eyes of the infant are washed with a saturated solution of boric acid. This is the physician's duty, and a nurse should never attempt to assume this responsibility, unless told to do so by the attending physician, or when she sees he has neglected to do so. Under these circumstannces she may do so. The mucus is removed from the mouth of the infant as soon as the head is born by the physician, and the nurse should wash the baby's hands so nothing may be carried by them to the eyes. Some physicians employ the "Crede" method, which is the nitrite of silver solution. One drop, not more, in each eye. It is then neutralized by flushing with a saline solution. This is security against infection. Other uterine contractions occur and the shoulders and body of the child is born. The birth of the child is usually followed by a large escape of amniotic fluid and blood, which has been kept in the uterus by the child's head.

Tying the Cord.—The child is still connected with the mother by the umbilical cord, through which the

blood passes from the placenta to the child, and which serves as the lungs or breathing apparatus of the child. If the child does not cry, catch it by the feet, and hold it up, head downward and slap it, or throw cold water on the chest, or immerge it in warm and cold water. Generally, however, the shock of birth and the exposure to the air is all that is necessary. As soon as baby cries vigorously, and is breathing normally the cord is cut. A certain amount of blood passes from the cord to the child for its strength and resistive forces and cutting the cord too soon robs the child of this amount of blood. But if the baby is strong and vigorous and is breathing properly, it is best to cut the cord shortly after birth, as some authorities have found upon investigation the liver of the child is not so apt to become engorged and thus it prevents jaundice in infants. But if it is a weak baby better wait until pulsation ceases. When the baby cries vigorously or the cord has ceased to pulsate, it is tied by two ligatures and cut between them. The first

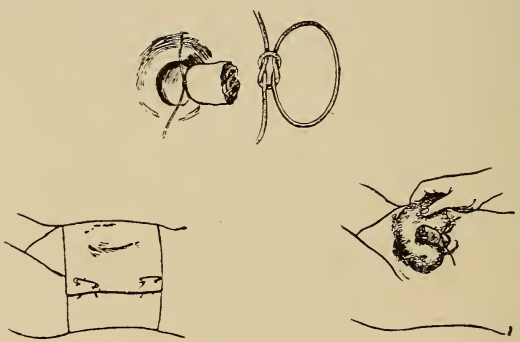

Fig. 31—The above illustration shows us the method of tying the umbilicus cord and the binder applied.

tying is about two inches from the umbilicus and again further down, about three inches, and cut be-

tween the ligatures. The pulsation in the cord lasts from five to fifteen minutes. The ligature on the placental end is to keep the placenta from becoming flat from the loss of blood, it requires more effort to expell it when it is flat, and, also, as a precaution in case of twins, the unborn child, if it were retained too long, might bleed to death. As soon as the cord is cut it should be wipped free from all blood, a piece of sterilized absorbent cotton is saturated with a one to two thousands bichloride of mercury solution, this is wrapped around the stump. The baby is then wrapped in the woolen blanket prepared for it, leaving only its little face exposed. An infant needs all the air it can possibly breathe to expand its lungs, which are usually not fully expanded until the second day. The little stranger is then removed to a place of safety. The napkin adjusted as already described, its little body and blanket are protected in case its bowels move. It is laid on its right side and kept warm by a hot water bag. The infant's colors should be pink or red, and its cry vigorous and strong, not a whiney wail. The nurse should then return to the assistance of the physician and attention is given the mother who generally lies perfectly quiet and exhausted by the great muscular effect she has been through. Sometimes the birth of the child is followed by a nervous chill, this is not a serious condition, it is generally caused by shock on the expulsion of the child. The nurse should from time to time return and see if the baby is alright. Look and see if there is any oozing of the cord. Baby's have become quite weak from the loss of blood before this condition has sometimes been discovered. See that the baby is warm and properly breathing. That the little hands are wrapped so the

baby cannot get them to its eyes. This is one way of carrying infection, the infant getting its hands up to its eyes. The child's head should be lower than its body, so if there is any mucus in the throat, it can run out of the mouth. No further attention is given it until after the expulsion of the placenta and the mother is attended to and resting.

Preparation for Forceps Operation.—If It is necessary to use forceps, the patient should be cleaned, the perineum, vulva and adjacent parts washed with a one in two thousandth bichloride of mercury solution. A bichloride pad in the strength of one in two thousandth is placed over the entire birth canal. All soiled and bloody clothes should then be removed. Then place the patient across the bed with hips close to the edge, the knees far apart and flexed back on the abdomen. It usually requires two assistants to hold the legs in this position. The sling sheet is best, it supports the legs and the nurse simply holds them apart. It is more satisfactory. The legs may be covered by wrapping sheet around them, or better still the long leggins made of light weight flannel or outing cloth that is used for this purpose.

Baptism.—If the family are catholics, the nurse, unless the physician has attended to the matter, should arrange for the baptism of the child when there is a possibility that the child will die. The doctor may give the child intrauterine baptism if there is a possibility of death before birth. If the nurse is a Catholic, she should see that the child is baptized whether the parents are Catholics or not, when there is danger of death, but if the nurse is a non-Catholic and her patient is a Catholic, she should see that this duty

is not neglected. A non-Catholic may administer this rite. Take a cup of plain water, and while pouring it over the infant's head or presenting part, say these words while pouring the water: "I baptize thee in the name of the Father and of the Son and of the Holy Ghost."

Third Stage.—From the expulsion of the child to the expulsion of the placenta and membranes. As the child leaves the vagina, the nurse should follow down the receding uterus with the hand placed on the abdomen. This is to avoid hemorrhage. After the birth of the child there is a rest of a few minutes, when other

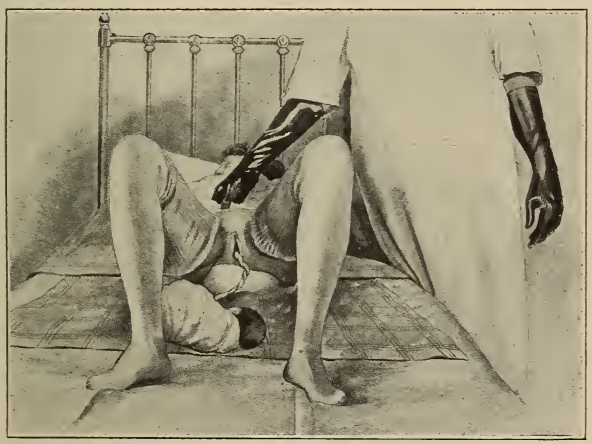

Fig. 32—Patient arranged for the conduct of the third stage of labor.

uterine contractions are felt and the placenta and membranes are expelled. This stage usually lasts from fifteen minutes to a half hour. In normal delivery the placenta descends folded vertically in the axes of the womb through the vagina. The passage of the placenta through the uterus to the vagina is indicated by the

fundus of the uterus rising up about two inches above its previous position, and when this occurs firm pressure downward and backward in the direction of the vagina will force it out. Immediately after the birth of the child, the nurse should place one hand over the abdomen to secure contraction of the uterus and to ascertain if there is another child. The uterus should

Fig. 33—Nurse holding the uterus during the third stage.

be firmly held until after the expulsion of the placenta. A large bichloride pad is sometimes placed over the vulva and kept there until the placenta is expelled. After a short rest, during which the uterus can be felt as a round hard body just under the umbilicus, the pains re-occur, the uterus contracts and the placenta and membranes are expelled.

The placenta usually leaves the uterus in fifteen minutes to a half hour after the birth of the child, and enters the vagina, whence it is expelled by the abdominal muscles. There is a loss of blood, but

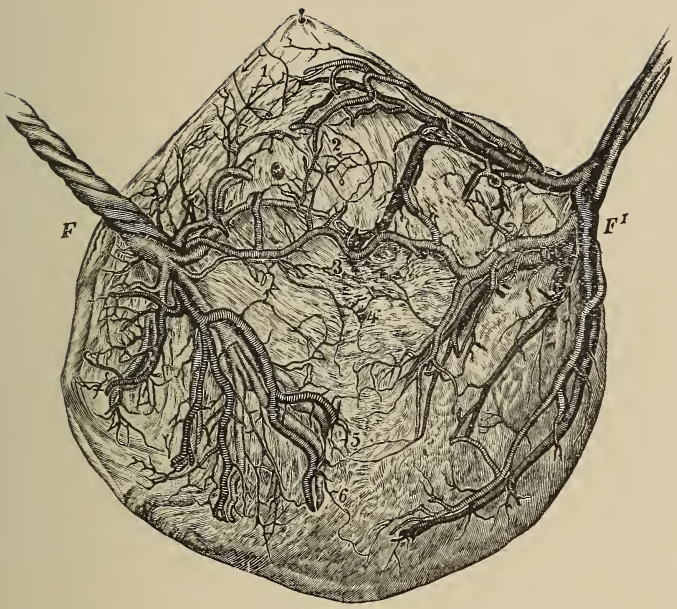

Fig. 34—Twins placenta, showing arterial anastomosis.

usually it is not abnormal. Chloroform is never given during this stage, as it favors the relaxation of the uterus and predisposes to hemorrhage. The nurse is usually required to hold the fundus while the doctor is otherwise engaged. It should be held gently but firmly, and by kneading in circular movements over the uterus through the abdominal wall aids much in the exciting of the uterus contractions. Never pull upon the cord; this might produce serious complications. As the placenta slips from the vulva, it should be caught and twisted round and round so as to remove all the membranes. If bleeding is profuse or there is a hemorrhage, the physician usually instructs the nurse to give the patient a teaspoonful of

fluid extract of ergot or a hypordermic of ten mim. of ergotole. It is usually given immediately after the delivery of the placenta, whether there is a hemorrhage or not, as a precaution . The maternal organs are torn across and the placenta being removed, some hemorrhage naturally follows. The empty uterus contracts into a hard, round, firm ball, and is felt just above the symphyses pubes. Have ready for the reception of the placenta a clean vessel. Usually a clean chamber and lid to cover it with, is best, and most convenient to get. Save it until after the examination by the attending physician. Then destroy it by burning. This examination enables the physician to know and determine if any parts of the placenta or membranes are left in the uterus. Any particles left in the uterus will decompose and cause septic poisoning. So in the absence of the physician, save everything for inspection on his arrival. The physician will inspect the placenta and membranes carefully to see that no pieces of either is left in the uterus, so the nurse should place the vessel containing them where he will see them before he leaves the house. And it would not be improper for the nurse to call the doctor's attention to it if he should forget it.

Douche After Labor.—Some physicians order, or rather give it themselves, a douche immediately after the expulsion of the placenta. It is usually a one to five thousandths bichloride of mercury solution. The nurse should inquire of the physician the antiseptic wanted, as physicians have different methods.

It is given to wash out blood clots from the vagina, and as an antiseptic precaution. Physicians differ in their opinion regarding the use of the douche. Some

claim it is apt to do harm by carrying infection up in the vagina. But it is never given unless ordered and then the physician usually gives it himself. Sometimes a hot douche is given to secure contraction of the uterus, and in case of post-partum hemorrhage. Some physicians use the pitcher douche of plain sterile water, using their hand to remove the blood clots. With the left hand placed over the uterus on the abdomen, the right hand is inserted in the vulva, then kneading the uterus through the abdominal wall with the left hand, forcing down, causing the uterus to contract, this forces down the blood clots, and at the same time using the right hand for manipulation through the vulva and removing them. The nurse pouring slowly and continuously hot sterile water 115 degrees. This treatment continued for about an hour. I have noted with this treatment very little blood is lost and the uterine contractions are firmer. A nurse should always prepare and have ready a sterile douche bag and nozzle. A glass intro-uterine douche nozzle; a pint of sterile vinegar, and a sterile granite pitcher. Emergency might arise, and the life of the patient depend upon immediate remedies. Have everything in readiness in case the doctor may need them.

Lacerations.—The physician will now examine the patient for lacerations. Should he refer this matter to the nurse, she should positively decline to do so. This is the physician's duty, and the nurse who would presume to assume this responsibility would expose herself to criticism. Many women date lifelong invalidism to the neglect of the proper repair of the pelvic floor and birth canal.

The placenta expelled and the condition being

normal, there being no tear in the perenium, or none that require sutures, or if any the physician has repaired them, the doctor usually instructs the nurse to clean and dress the patient.

The Toilet and Care of the Patient Immediately after labor.—The first thing to do is to place a large pad of dry sterilized absorbent cotton over the entire birth canal to prevent any germ entering it. Place one of the sterilized towels that has been boiled in the bichoride solution under the patient over the labor pad. This is to make it safe and antiseptic. Place your patient on the douche pan. Disinfect your hands and immerge them for a few minutes in a one in two thousand bichloride of mercury solution. Generally the hands are kept as clean as possible, during labor requiring to be immerged only a few minutes in a bichloride solution. With clean hands separate the lavia and with a hot pitcher douche about 115 F. remove all the blood clots from the vulva. The douche consists of plain sterile water unless some disenfectant is ordered by the attending physician. Your vulva pad is now applied. It should consist of a thin piece of absorbent cotton, which has laid for several minutes in a one to five thousandth bichloride of mercury solution. This is wrung out as dry as possible and placed over the genitals. It should be large enough to entirely cover all the hairy part, so that no germ can get into the birth canal. Over this is placed a large pad of dry sterilized absorbent cotton. The body should now be cleaned of all blood and discharge, and all soiled linen removed from the bed. Wash the patient's buttocks, lower abdomen and thighs; any part of the body that is soiled. Remove the labor pad and all soiled linen and clothing and

replace with fresh, clean ones. If the labor has been conducted as herein described, towels used under the buttocks of the patient and each removed as soiled, there is nothing to remove but the labor pad. The night-gown rolled up under the arms neatly out of the way, as herein described, is usually perfectly clean. requiring no changing, and the labor pad made of newspapers and an old sheet, or newspapers and raw cotton covered over with cheese cloth can be removed, leaving the bed nice and clean. So using this method it is easier, cleaner and there is practically no washing for the lying-in woman, except the few towels used during labor over the labor pad. Should the bed or patient's clothing accidentally become soiled during labor, they must all be replaced with clean ones. A large pad made of cheese-cloth and cotton batting or raw cotton (non-absorbent) or an old sheet folded and pinned to the mattress, so as to prevent wrinkling, should be placed under the patient's hips the first three or four days when the flow is the greatest, so as to protect the bed. Changed as often as it becomes soiled. The binder should now be applied.

The Binder.—The binder should reach from the breast-bone to a point well below the hips, so as not to ride up when the patient turns in bed. A straight band of strong unbleached muslin is best for this purpose. The selvage torn off and unhemmed. They are more comfortable if laundried. This bandage should be adjusted so as to fit the figure. It can be closely and firmly fitted by pinning with safety pins. Pin with safety pins, large size, beginning in the front at a point below the hips, draw the binder tightly and evenly and pin with a safety pin. Then pin the bandage even through the middle, using no tension.

Now fit it to the figure by pinning it firmly and tightly on each side, using large safety pins. Begin the fitting of the binder above and pin downward. Some authorities advocate placing a firmly rolled towel under the binder just above the fundus of the uterus to make additional pressure at this point. This is to assist in keeping the uterus contracted, and thus aid in the prevention of hemorrhage. Care must be taken that this towel does not slip and push the uterus to one side and thus cause misplacement and trouble. The towel may be removed in twelve hours. The binder serves to promote the comfort of the patient by supporting the lax abdominal wall, enabling her to turn with ease on her side, and the towel serves to promote the contraction of the uterus. Some physicians use instead of the rolled towel adhesive plaster bandage. This bandage reaches from side to side. The adhesive bandage is about one and a half inches in width, using three widths; it is pulled very tightly and reaches from the navel to a point just above the pubic arch. The object of this bandage is to bring the recti muscles together, and thus prevent the large pouting abdomen so often seen after labor; it also promotes the contraction of the uterus. This bandage is worn until the mother is up and well.

The Occlusion Bandage.—The broad occlusion bandage that holds the vulva dressing is next applied. It is pinned with safety pins, two in front, one on each side, and the same way in the back. This, also, serves to keep the abdominal bandage from riding up.

After Pains.—Most women experience a restful feeling after the birth of the child and are inclined to be wakeful and talkative. In regard to after pains,

they should not exist. It is an abnormal condition, and a positive proof of the retention of a foreign body in the uterus, and the pain is caused by the contraction of the uterine muscles to expel this foreign body.

Temperature and Pulse.—The last thing to do is to take the patient's temperature and pulse. The temperature should be about ninety-eight and a half to ninety-nine degrees, and the pulse is somewhat slower than normal; from sixty-five to seventy beats per minute. If it is more than one hundred beats per minute, look out for hemorrhage.

Everything being in good condition, the room should be darkened, the mother should be kept perfectly quiet and encouraged to go to sleep. There should be no loud talking in the room, no excitement, and no visitors allowed or admitted, not even relations, until after three full days, and then only the immediate family, only two a day, for a few minutes at a time. Their visits should not exceed ten minutes.

The puerperal period now begins.

CHAPTER VIII.

THE PUERPERAL PERIOD.

Care of the Mother After Labor.

Sleep After Labor.—After the patient's toilet is over and all percautions have been taken to guard against hemorrhage; the pulse good, the uterus firm, and there is no bleeding from the vulva; the abdominal and occlusion bandages applied, it is very desirable the mother should enjoy an hour or two of quiet, restful sleep. Sleep relieves the exhaustion following child-birth, and is a very important element in the restoration of the patient. To obtain this end the room should be darkened and absolute quiet reign, and the mother persuaded to go to sleep. The child should not be allowed to disturb the mother's rest. If it cries it should be taken into another room.

It is best, if possible, to have a room for the baby separate from the mother's, and the infant taken to her at regular intervals to be nursed.

Nourishment.—If the mother complains of feeling weak or faint after the completion of labor, a cup of tea, broth or a glass of milk may be given her.

The Position of the Patient.—The patient should lie on her back the first twelve hours after labor; if she turns on her side the heavy uterus falls forward and may draw air into the uterus, causing the

blood to clot, thereby causing obstruction and misplacement. After the first day the uterus usually, in normal cases, contracts down firmly and there is no such danger. The patient lies on one side or the other most of the time, after the first day, not much on her back. This position, also, aids in the expulsion of the blood clots. Do not allow your patient to lie too long on one side; if she does the uterus will incline towards that side. Examine the abdomen from time to time to see that this condition is not present. If so, turn your patient on the opposite side and matters will adjust themselves.

Sometimes a full bladder or rectum will cause a misplacement. Watch these conditions carefully.

Involution.—When labor is over the uterus immediately begins to return to its original size. This is called involution.

Uterine Contractions.—The uterine contractions continue two or three days after delivery. They expel blood clots from the uterine cavity. Prevent hemorrhage by causing the uterus to contract down on the torn blood vessels, compressing them. Contracting the uterus, thus aiding it to return to its normal size.

Bleeding.—In case of excessive bleeding, give the patient a half teaspoonful of fluid extract of ergot every hour until the bleeding is controlled, and stimulate the uterus by putting the child to the breast, and knead the uterus by rubbing it in circular movements through the abdominal wall. Should there be a distinct hemorrhage more extreme measures must be taken. Give immediately a hypodermic injection of one-sixth of a grain of digitaline, and one

thirtieth of a grain of strychnine. A hot sterile douche of one in four thousandth bichloride of mercury. The temperature of the water should be one hundred and ten to one hundred and fifteen degrees. Hot water is an astringent, contracting the blood vessels, and thus aids in the arrest of hemorrhage. Notify the physician in charge of the case at once.

Passing of Urine.—The bladder should empty itself in at least eight hours after delivery, and the nurse should have her patient try. The natural impulse to urination after delivery is feeble, even when the bladder is full. This retention is often relieved by hot fermentation to the parts and over the bladder, or by allowing some warm bichloride solution, in the strength of one in four thousandth to flow over the parts while the patient is trying to urinate. If she can not start the flow, place several pillows under her shoulders to raise her a little, run the warm solution over the parts again and while the patient is bearing down, assist her by placing one hand over the bladder and making gentle pressure. If this is not successful, the use of the catheter will be necessary. Do not use the catheter without consulting the attending physician. Some physicians allow and encourage the mother getting out of bed eight hours after delivery, if no complications exist, rather than use the catheter. Have a sterile slop jar, or a chamber placed on a box or stool to make it a convenient height, and allow the patient to get out of bed and sit on it, resting her head against the back of a chair. This position also aids in the expulsion of blood clots and there is practically no danger attached to it.

Catheterization.—In using the catheter observe carefully the following directions. The catheter on such an occasion should be a glass catheter. The catheter, brushes and cotton we use for the cleaning of the hands and parts should be boiled in covered basins twenty minutes. The soap should be green soap or some sterilized liquid soap. The hands of the nurse are cleaned before using the catheter, as for a surgical dressing, according to directions already given. The patient lies on her back on the bed pan, with knees drawn up and separated. The parts are scrubbed with a soft brush, soap and water, all of which are sterile. Then wash off well with plain boiled water, afterwards flush with a one to four thousandth bichloride of mercury solution to thoroughly disenfect. The preparation in details is as follows: Place your patient on the bed pan and arrange the clothing so you can throw them back by placing your elbow under them. Now scrub and disinfect your hands, then throw back the clothing with your elbow. Have the patient separate the knees and scrub the external parts well with the sterile brush, soap and water; wash off with plain sterile water. Then separate the labia and cleanse the vestibule and meatus with sterile cotton, which is wet in a bichloride solution, one in four thousandth. Then wash off with plain boiled cotton, and insert a large piece of cotton in the vagina to prevent the danger of the discharge or flow coming in contact with the catheter. The catheter is then gently inserted. Remember the anatomy, do not push it, use no force. In taking hold of the catheter, take hold near the middle. Do not touch the point. If it does not slip in easily, dip the point in sterile vaseline, glycerine or sweet oil, but

use no force. After the nurse cleanses the parts, the labia must be kept separate until the catheter is introduced. Should the parts be allowed to come in contact, they must be cleansed again with antiseptic solution before the catheter is introduced. The urine is collected in a vessel. A graduate urinal is best. The end of the catheter is placed in the urinal and the urine received in it. Press gently over the bladder to be sure it is entirely emptied. Sometimes when the flow stops, if we pull the catheter down a little we will have another continuous flow. This is caused because we have inserted the catheter too high, and when the water passes below the line of the catheter it ceases to flow. We should never insert the catheter any higher after the flow commences. When removing the catheter the finger should be placed over the end to prevent air getting into the bladder, and, also, from soiling the bed clothes. If the patient complains of a burning sensation after catheterization, apply a small compress of sterile cotton wet with cold sterile water. The external genitals are flushed with cool sterile water after each catheterization. They should, also, be flushed after each urination if the use of the catheter is not necessary. The evacuation of the bladder should be repeated once in eight hours, and the urine measured for the first nine days, to see if the kidneys are working properly. Hence if a graduate urinal is used to receive the urine in, if the catheter is used, there will be no waste, which necessarily occurs in pouring it from one vessel to another, but if the patient is able to void urine, and this is always to be encouraged, it will have to be received in the bed pan or slop jar, and

the urine emptied before irrigating, and measured afterwards.

This is one of the most important duties of a nurse, to catheterize properly. We must use aseptic catheter. The hands should be surgically clean. Basins, brushes, soap and water and all articles used should be sterile. Otherwise we are apt to carry microbes or germs into the bladder and cause inflammation. This inflammation is capable of extending from the bladder to the pelvis of the kidneys, and even the kidneys themselves with fatal results. The principal means and the only way to prevent this, is care and absolute surgical cleanliness.

The Bowels.—The bowels are usually sluggish. If there is no movement after forty-eight hours, give on the morning of the third day an ounce and a half of castor oil or a saturated solution of epsom salts two ounces, or a teaspoonful of the solution every hour until the bowels move, or give one half of a bottle of citrite of magnesia, followed by the remaining half in two hours if the bowels have not moved.

Diet.—The diet for the mother for the first forty-eight hours should be restricted to milk, one to two pints a day, gruel, soup, toast and butter with one cup of tea or coffee in the morning if desired. The first two or three days the patient is usually thirsty, and is indifferent to solid foods. After the bowels have moved on the third day the normal appetite usually returns, and a more liberal diet should be given, such as milk toast, poached eggs, soup, tapioca custard, oysters, white meat of fowl and after the fourth day a moderate full diet is given. The mother

needs as liberal a diet as she can take for her own nutrition and that she may supply the proper qualtiy and quantity of milk for the demands of the child. If the milk comes profusely on the third or fourth day, restrict or limit the amount of liquids until the flow is controlled.

Visitors.—No visitors should be allowed in the lying-in chamber until after the expiration of three full days, and then only the immediate relatives, only a few the first week, and their visits of short duration. Never more than two a day, and their visits should not exceed ten minutes. It is too trying on the mother, exhaust her strength and is apt to excite her, and visitors are sometimes thoughtless and inconsiderate. They should be told when their time is up if they do not leave promptly.

Cleanliness.—"Cleanliness is next to godliness," and it is never so near true as in the lying-in chamber. Here cleanliness must reign supreme. I mean the cleanliness that goes beyond that which can be seen with the eye. I mean surgical cleanliness. Absolute cleanliness of the patient's person clothing, bedding and all instruments and dressings, the nurse's hands, and all that come in contact with the patient's genitals must be surgically clean. Great care must be taken to keep the external genitals clean.

Vulva Dressing.—The vulva dressing should be changed every four hours the first three days, and as often thereafter as it becomes soiled, and after each bowel movement and urination. The parts are bathed each time in a warm bichloride solution. To accomplish this place your patient on the bed pan and remove the pad. The nurse provides everything she

will need close at hand before placing her patient on the bed pan. After placing her patient on the bed pan, she arranges the covers so they can be thrown back with the elbow. She then sterilizes her hands or uses sterilized rubber gloves. Rubber gloves should always be worn when the discharge is of an infectious character and there is a suspicion of gonorrhea or syphillis. The patient should urinate at this time, if possible, while the nurse scrubs her hands. Should the patient void urine, it must be emptied and afterwards measured, and if the patient's bowels move, the patient must be attended to before the nurse immerges her hands in the bichloride solution. After attending to the wants of the patient, wash them again with soap and water and then immerge them in a bichloride solution in the strength of one in two thousand, or use the sterile rubber gloves. Wash the genitals gently by allowing the warm bichloride pitcher douche in the strength of one in five thousand to flow over them at the same time washing the parts with sterilized absorbent cotton. The bichloride pitcher douche is followed by a warm sterile plain water pitcher douche, the parts are wipped dry with dry sterilized absorbent cotton. Apply a fresh clean sterilized dressing, and reapply the occlusion bandage, which should always be dry and clean. Never use a pad that has been removed, even if it be perfectly clean, and always before making any manipulation about these parts the hands of the nurse should be cleaned and disinfected as herein described. Allow nothing to come in contact or touch the genitals which is not surgically clean. The pad or draw sheet immediately under the patient should always be kept clean and dry. A general sponge bath is given the

patient each morning followed by a gentle alcohol rub.

Sutures.—If there are any stitches in the perineum, the nurse must be very careful and not pull on the ends or knots in any of the manipulations in dressing or cleansing the vulva, and in removing the pad or dressing see that the ends do not catch in the pad and pull on the wound. In dressing these parts, use extra care in cleansing around each stitch. This is best accomplished by wrapping sterilized cotton around a toothpick, which has been sterilized by boiling, cleansing each stitch separately. Moisten the cotton, after wrapping it around the pick, in a one to five thousand bichloride of mercury solution and cleanse each stitch separately, using a fresh pick for each stitch. Should the patient complain of the ends of the sutures pricking her, the nurse should lay a thin layer of sterilized cotton or gauze on each side of the stitches and dust well with arristol or boric acid powder. At each dressing examine the wound carefully and see if the stitches are cutting through. If there is any irritation or swelling; any pus formation around the stitches, and if so tell the doctor and call his attention to it at his next visit. Use all precaution to avoid stitch abscess. If the suture used is non-absorbent, the stitches are removed on the eight to the tenth day, and the nurse should have ready for the doctor, when he makes his visit, if the time can be anticipated, a sharp pointed pair of scissors, a pair of artery forceps and a pair of tissue forceps. All of which should be sterilized and ready for the doctor when he arrives. If the time of his visit is uncertain, have all ready and put the instruments on to sterilize as soon as you know he

is in the house. This is one of the advantages of having an outfit as herein described, the nurse can save herself and the physician much annoyance by having little things ready, and not have to wait until the doctor comes and wait until he gets the instruments for the nurse, and then keep him wait-

Fig. 35—Patient obliquely in bed draped with a sheet prepared for external examination.

ing while she arranges and sterilizes them. For the removal of sutures and examination, the patient is placed obliquely in bed, the legs drapped with a sheet or the long leggins are worn.

Ventilation.—Keep the air of the lying-in chamber fresh and pure. The fresh air should be admitted constantly from the outside through an open window, care being taken not to expose the patient to draughs. The sunlight should always be admitted, and the room kept clean, bright, warm and cheerful.

Care of the Breasts.—Watch the breasts that they do not become caked. If the breast becomes over

distended, or hard tender lumps are felt, the breast must be emptied by gentle massage or the breast pump. Massage is preferable. To massage the breast, lubricate the hands well with cocoa butter or olive oil, and rub gently from the base toward the nipple. Continue this process until the breast is emptied and it is soft and even and free from all knots. It is best to control the flow of milk by bandaging, the breast will then secrete only the amount of milk the child can take, while massage tends to stimulate an abnormal secretion. If inflammed, it must not be rubbed, but apply a hot compress or a hot flaxseed poultice, and support its weight with a bandage.

Care of the Nipples.—The nipples should be washed before each nursing with boric acid solution a tablespoonful to a pint of water. It is best to boil the solution a minute or two, as this thoroughly disolves it, then filter by pouring it through absorbent cotton.

After the baby has nursed, wash the nipples off with fluid extract of witch hazel, rub a little borated vaseline into the nipple, and then place a fresh piece of absorbent cotton over the nipple. This is to protect them and absorb the milk that might ooze out. Be sure that these pads are always clean and dry. If neglected the milk oozes out on the cotton and dries, thus forming a hard rough surface. This scratches the nipples, irritates them and makes them sore. If the nipples are cracked and are very sensitive, apply a little borated vaseline and dust well with boric acid powder and use a breast shield when nursing until

healed. If the nipples are small or sunken much trouble may be saved by putting the infant to the breast and teaching it how to take hold before they became engorged. Any marked sensitiveness or redness of the skin should be reported to the physician at once. Report to the physician at once any signs of abnormal occurence. I have found by keeping a small pleget of cotton wet with a one in eight thousand bichloride solution over the nipples prevents soreness and fissues. It must be kept wet and changed each time baby nurses.

Fig. 36—Dr. C. S. Bacon nipple shield.

Dr. A. N. Curtis Method.—Dr. Arthur N. Curtis, of St. Louis has introduced a method of nursing the baby that has many fold advantages, saving time and trouble for the mother, baby and nurse. With his permission I herewith give this method to the nursing public, feeling sure they will be as grateful as I was, and will realize its advantages. The following are the directions:

The baby is nursed every four hours, using first the bare nipple, the baby is encouraged to take the nipple and the nurse should continue her efforts until the little stranger understands how to take hold. The next time baby nurses the nipple shield is used, alternately, nipple and shield. This rule observed, the baby takes the nipple every eight hours. The nipple unaccustomed to performing any funcition, by this method gradually accommodates itself and is not used abruptly or abnormally as the case would be if used every three or four hours. This is one of the causes

of soreness. The breast unaccustomed to any function, immediately becomes full and distended and if suckeled every two or three hours as is the case after the third day when baby is nursed every two or two and a half hours. By using this method there is seldom any soreness or tenderness of the nipples; cracks and fisures are rare; the secretion is stimulated and renders nursing easier in the beginning as the suction will cause what fluid there is in the breast to flow with less effort, and if the nipples are small or sunken they are drawn out and developed. Should the nipples become tender use the shield entirely. After three or four days the nipple shield is discarded and baby takes the bare nipple at each nursing. The nipple receives the same care after nursing when the nipple shield is used, as if baby took the bare nipple.

Nursing.—Every mother should nurse her child, not only for its welfare, but for her own good, unless her health interferes. The nursing of the baby causes uterine contractions to become stronger, and thus the mother recovers more quickly and completely when she can nurse her child. Mother's milk is a God-given food, which belongs by right of nature to the child, and nurses should use their influence to encourage mothers to nurse their babies. It is to be deplored how many mothers there are who refuse, at first, to nurse their baby, preferring, as they will say, "to raise them on the bottle," so they will not interfere with their pleasure. But often a little persuasion on the part of the nurse, showing these mothers the injustice it is and what it means to the child, and appealing to her maternal instinct, this obstacle is often overcome. A good nurse's influence is very great, and she should use it for good whenever possible. No greater in-

heritance can any child receive than good health. In infancy the foundation is laid on which each future life is built.

The child is put to the breast eight hours after birth, and not oftener than once in four hours after that until a free flow of milk is established. The breast is first washed off with a one in two thousand bichloride of mercury solution, which is allowed to dry, then the nipples and adjacent parts are washed before each nursing with a saturated solution of boric acid and sterilized absorbent cotton. After each nursing wash the nipple with witch hazel and anoint them with a little borated vaseline, and place a pad of absorbent cotton over each nipple to absorb any milk that may ooze out. If the wet bichloride compresses are used, omit the vaseline.

Feeding the Baby.—If the baby seems hungry in spite of nursing the mother, give it a small quantity of boiled water frequently, and do not pay any attention to any suggestions with regard to the necessity of feeding it. Nature is a wise provider, and if the infant required food earlier, would certainly have provided it. The amount of nourishment obtained the first three days is small. It is not milk, but a thin fluid known as colostrum, which acts on the child's bowels and clears the intestinal tract of the meconium, and is infinitely adapted to the needs of the child. The nursing of the child helps to secure contractions of the uterus, often causing severe pains. As soon as the breast milk comes freely the baby should nurse every two hours, from six a. m. until ten p. m., and twice during the night, usually at one and four a. m., if awake.

THE POSITION OF THE MOTHER WHEN NURSING THE CHILD.

When Lying Down.—When the mother is lying down the child lies flat on the bed, on its side, not on the mother's arm. The mother lies on her side, inclin-

Fig. 37—Proper position for nursing an infant when lying down.

ing slightly forward with the arm thrown backward under the head. In this position the breast is so placed that the child can take hold of the nipple with ease and comfort. The nipple should be pulled out with the thumb and index finger and then washed, and then baby is placed at the breast. A crying baby will not take the breast the first time. Take baby when partly awake, place him in the position described and rub his little head so as to rouse him, the nipple being on the same angle as his mouth, he usually takes it without much trouble. It may be necessary to moisten the nipple with a little sweetened water or a little milk squeezed from the breast, in order to

induce the baby to work, but usually a little perseverance on the part of the nurse is all that is necessary.

Sitting Up.—When the mother is able to sit up the infant is held with its little head on its mother's arm

Fig. 38.—Proper Position for Nursing an Infant When Sitting Up.

in a comfortable position. She should have a low rocker chair without arms, and a foot stool for her foot to rest on.

Regularity in Nursing.—Regularity in nursing is very important for two reasons: It aids and es-

tablishes proper digestion, and it helps to keep the flow of milk regular in quality and quantity. If the intervals are too long the milk becomes too thin; if too short the milk becomes too rich, and if nursed at irregular intervals the baby's stomach is upset. Digestion is the process by means of which food is changed and dissolved so it can be taken up by the blood and carried by the circulation to all parts of the body for its strength and building purposes. When a baby is nursed, the milk on entering the stomach meets with the different juices and ferments of the stomach. The hydrochloric acid causes it to curdle. By contraction of the stomach these curds are broken up and finally dissolved and assimilated. This process takes two hours. Hence the nurse will see the necessity of regularity in nursing. But if nursed regardless of order and regularity, or whenever the child cries, as some foolish mothers do, the stomach will rebel and baby will have indigestion and vomit its food; because its little stomach is crowded; one nursing is not digested before another is taken into the stomach. The milk; too, when baby is nursed irregular, decreases in quantity, and becomes stronger in fats; this, too, disagrees with the baby, causing indigestion. The quantity of milk secreted daily by the mother's breast, usually under normal conditions, depends upon the amount needed, the age of the child. If the mother is healthy, takes sufficient out of doors exercise, eats the proper amount of nutritious food, and drinks at least a quart of rich milk a day, she should have sufficient milk for the needs and nourishment of her child. The milk changes in composition and increases in quantity to suit the age and wants of the child. If on the other hand the

mother neglects to take the proper amount of exercise and fresh air; does not take the proper kind or amount of nutritious food, nurses the child irregular, the milk will be found wanting in quality and quantity. The nurse should impress the importance of the observance of these simple rules on the part of the mother, so as she may be able to nurse her child. It is a duty she owes it.

How Often to Nurse the Baby.—After the free flow of milk is established, usually about the fourth day, baby is fed every two hours during the day, from six a. m., until ten p. m. and two feedings at night, if he is awake. Never wake a baby at night for food. The night feeding is usually about one and four a m., until baby is five weeks old. From five weeks to twelve weeks, baby is fed every two and a half hours during the day, from six a. m., until ten p. m., and one feeding at night, usually at two a. m. From three to five months every three hours during the day, usual hours, no feeding at night. From five to nine months a child is fed four times a day, and at this age strained cereals and broth are added to the mid-day meal. Babies are creatures of habit, if fed at regular intervals they can be so trained that they will awake or seem hungry only at the regular time of feeding. When the hour for feeding arrives, the child must be fed, and if asleep must be awakened for that purpose. Never wake a child at night for food. When a child that has been so trained cries for food before the regular hour, or awakes hungry at night, it is an indication that the milk is lacking in either quantity or quality. In such a case the analysis of the milk will show the cause. To decide if baby is getting the proper quantity or not, weigh the baby before nurs-

ing, allow it to nurse 15 minutes and then weigh it again. If the child's weight after nursing is not increased to correspond to the number of ounces it should consume at a feeding, then the milk is deficient in quantity and must be increased by the mother taking more liquids and milk producing foods. If the quantity is sufficient, then it is probably due to deficient quality, the milk is not rich enough and the physician should be consulted, and the mother should eat foods of richer quality, those that contain more fats. Any deficiency in either quantity or quality will cause the baby to be fretful and restless; cries frequently and does not seem satisfied after nursing.

To Increase the Flow of Milk.—If the milk is deficient in quantity it may be increased by the mother taking fluids and milk-producing foods. Milk, if it agrees with the mother, is excellent for her, one pint of cream to two pints of milk, mix them and drink it during the day, between meals and on going to bed. Chocolate is very nutritious. Malt nutrine, soups and even water will increase the supply where the quantity is deficient. But if the quantity is sufficient, but does not seem to satisfy the baby, it is possible it is deficient in character, not rich enough to satisfy the child, and in such a case the physician should be consulted, who will take a specimen for microscopical examination to determine the trouble, and give a diet list which will increase the quantity and supply the deficiency. If on the other hand, it is too rich in fats, it will upset the baby's stomach and cause indigestion, and, also, affect the bowels, causing frequent movements.

Mixed Feedings.—Sometimes all efforts to increase the mother's milk fails, and the baby must be given something in addition. A child must never be taken

from the mother's breast merely because the supply is insufficient for its needs. So long as the mother's breast continues to secrete, the child must be given the benefit of it, if the mother is healthy and the milk fit for it. Sometimes the milk contains the colostrum which renders it unfit for the baby. Mother's milk is not only of a character that can be easily digested by an infant's partially formed organs, but furnishes the substance needed for the child's growth and development of these organs that is not found in cow's milk or any other food. The deficiency of the nourishment required for the child's growth and development is made up by supplementing the nursings by feedings with modified cow's milk. A bottle is substituted for as many feedings as is necessary. When the breast and bottle feedings are combined, both breasts should be nursed at each nursing.

To Dry Up the Milk.—When from any cause it becomes necessary to dry up the milk or decrease the flow, the mother should pursue the opposite course described, "to increase the flow," using very little fluids, and drinking very little, if any, water. The bowels should move freely every day. A tablespoonful of epsom salts should be taken before breakfast. Belladonna ointment should be applied to the breast, care being taken that it does not touch the nipple. A tight bandage is then applied. Cotton should be placed between the breasts and at each side, and a pad over them. This is to even the pressure, and to prevent any binding or compressing of the tissues. The breast binder should reach from under the arms to a point below the breast, and should be put on as tight as can be borne and pinned with safety pins. A small bandage or strap is pinned in the middle of

the breast bandage in the back. The straps are then brought over the shoulders, suspender fashion, and pinned in front, on each side to keep it from slipping down. Or better cut a jacket as shown in illustration. It is more satisfactory and comfortable.

The Temperature.—Take the patient's temperature, pulse and respiration in the morning about seven o'clock, at noon and about four o'clock in the afternoon until the case is dismissed.

The Lying-in Period.—Most women expect permission to be given them to get up on the tenth or eleventh day. There is, however, no fixed rule about getting up at any set time. Not to get up until the tenth day is the customary rule in normal cases, but where the uterus does not contract properly, or there is a large tear in the perineum and must heal, a much longer period of time is required, and the longer the patient remains quiet and in bed, the better she will be. But no patient is allowed to sit up until the uterus is well contracted and returns to the pelvic cavity. And the mother should not go up or down stairs until after the third week.

Convalescing Period.—The period of convalescence from child-birth requires about six weeks. It begins with the expulsion of the placenta, and is the time occupied by the uterus and its appendages in returning to their normal size and condition. There are cases where it exceeds this length of time, and a much longer time is required.

Morning Toilet of the Patient.—As soon as the patient awakens in the morning take her

temperature, usually about seven or seven thirty o'clock. After washing her face and hands, and allowing her to brush her teeth, prepare an appetizing breakfast and serve as daintily as possible. Breakfast over; baby nursed; the mother has rested, and an hour has elapsed since her breakfast, proceed with the morning toilet. Place your patient on the bed pan and remove the vulva pad, and she should try and have a movement of both bladder and bowels. Then, after preparing and having within easy reach sterile basins, cotton, soap, water, a warm bichloride solution in the strength of one in five thousand, and the pitcher douche of plain sterilized water, the nurse cleans her hands. (The nurse should always keep the basins, brushes, soap and water sterile so they will always be ready, sterilize them as soon as finished using them. They will then be always ready in an emergency), The bed pan is now removed and emptied and replaced under the patient. The nurse now washes off her hands with soap and water again, and then emerges them in a bichloride solution in the strength of one in two thousand. Rubber gloves are very nice, they save the hands, and in cases where the discharge is of an infectious character, they are very necessary. The nurse then washes the genitals with sterilized cotton, sterile soap and water. Wash off all soap thoroughly with plain sterile water. Separate the labia and flush the vulva well, removing all blood clots. The bichloride solution pitcher douche is followed by a

Fig. 39—Perfection douche and bed pan.

pitcher douche of plain sterile water. Wipe dry with plain sterilized cotton. Then the usual dressing. The first four or five days a thin bichloride pad is kept over the genitals to prevent infection. After wiping the parts dry, apply a thin piece of sterilized cotton wrung out of a one in five thousand bichloride solution over the genitals. Have it large enough to entirely cover the birth canal and hairy region. Over this a large piece of dry sterilized absorbent cotton. Now remove the bed pan and wash the thighs and buttocks with warm water and soap, remove the abdominal binder and wash the abdomen and back with soap and warm water. Wipe dry with a clean towel, and give a gentle alcohol rub. A clean abdominal binder is now applied, fitted well into the figure at the sides with safety pins. See that the room is the proper temperature, so as not to chill the patient. As soon as a part is washed dry immediately, then rub the part with alcohol, and cover. Expose only the part that is being washed so as to avoid chilling the patient. Watch the uterus carefully, see that it contracts properly and keep it in the median line. If it inclines to either side, keep the patient on the opposite side and nature usually adjusts matters. If too large or abnormally sensitive the physician should be informed at once. All physicians do not give these matters their personal attention. Some leave this condition to the supervision of the nurse, and she should be very careful. After applying the abdominal bandage, the occlusion bandage is applied. It should be pinned tightly in front with two safety pins, one on either side, and the same way in the back. The patient's night gown is now removed and the rest of the body bathed with warm water and

soap, followed by an alcohol rub. Then a clean night gown is put on. If the sheet is the least bit soiled it must be removed and replaced by a clean one. If not soiled it should be made smooth and free from all folds and wrinkles. A clean draw sheet or pad is always put on. This should be put on fresh and clean even if it is not soiled. It is usually damp with perspiration, and absorbs the odor. The hair is then combed and braided into two braids. It is best to braid the hair in two braids while the pattient remains in bed, as it is easier to comb. The patient can turn first on one side and then on the other in combing the hair and the exertion is not so great. The patient may now be placed on the other side of the bed; a glass of milk given her, and she usually takes a nap.

This is the daily morning toilet of the patient as long as she remains in bed. In the evening a fresh dry gown should be put on, the back rubbed with alcohol and the patient moved to the other side of the bed.

To economize in washing, if the gown removed in the morning is not soiled it should be hung out in the sun to dry and air, and used again at night.

HOW TO CHANGE THE PATIENT'S BED.

To Change the Under Sheet.—Remove all covers but the sheet. Move the patient to one side of the bed, as close to the edge as possible to be comfortable. If the patient is able she may move herself slowly over, if too weak, and there is a tear in the perineum, which necessitates her being careful not to make much of an effort, allow her to put her arms around your waist. The nurse then places her hands under the patient's back, and an assistant on the oposite side of the bed likewise places

her hands under the patient's back, and together the nurse and her assistant, in a swinging movement, are able to move the average patient without much effort. But the nurse should never attempt to lift a patient without assistance. Now roll and fold the under sheet and draw sheet close to the back. Against the soiled sheet, the clean sheet, half rolled, is placed. Spread the unrolled part of the clean sheet smoothly over the exposed part of the mattress and tuck it firmly in. Pin with safety pins if necessary to keep it smooth and firm. Place the pillow with a fresh clean slip on it on the clean side of the bed. Now simply turn your patient on her back, then let her turn on her side over on the clean sheet. If there is any reason why the patient should not move she must be lifted to the other side of the bed, and the nurse must have an assistant, if no other can be had call in a neighbor. Remove the soiled sheet and unroll the remainder of the clean sheet over the rest of the bed. Draw it smoothly and tuck it in under the mattress. Pin if necessary. The draw sheet is then adjusted. It is first placed smoothly over the under sheet on the side of the bed opposite that occupied by the patient. Tuck it well in at that side. The remainder of the sheet is rolled or folded close to the side of the patient. The nurse returns to the side of the bed on which the patient is lying. The patient raises her body a little, in the same manner in which she would for the adjustment of a bed pan, and the nurse quickly pulls the remainder of the sheet through and tucks it well in.

To Change the Draw Sheet.—When it is only necessary to change the draw sheet, it is placed smoothly across the bed over the lower sheet and should be

wide enough to reach from the middle of the patients back to her knees, and should be long enough so as it can be tucked well under the mattress at both sides of the bed to hold it firm so it will not wrinkle. When soiled it can be easily removed according to direction already given. The draw sheet should always be kept clean and dry, and changed each morning whether soiled or not.

To Change the Top Sheet.—Loosen the soiled sheet from the foot of the bed. Spread the clean sheet over the soiled one and tuck it in at the foot. Then, while holding the clean sheet with the left hand, draw the soiled sheet out with the right one. After which spread the remaining bed clothes on the bed.

Chapter IX.

COMPLICATIONS DURING LABOR.

Management of the Birth of the Child in the Absence of the Physician.—The most common complication the nurse is apt to meet is the deliver of the child before the arrival of the physician. It is perhaps more often in obstetrics than in any other illness that the nurse is called upon to assume, in the absence of the physician, the responsibilities that belong to him. She should understand the condition of things preceding labor. There are certain things she should know and understand. She should know how to tell the part presenting by external examination early in labor, and if it seems possible the child will be born before the arrival of the physician, she should know the position of the child. To make an internal examination introduce the fingers into the vagina during an interval between pains until it reaches the open mouth of the uterus. The membranes are then lax, and the presenting part of the fetus head can be felt. Position refers to the part of the child's head presented. We can tell the position of the child by the anterior fontanelles, the soft, triangular opening in the skull. This name was given the opening because the beating of the blood in the brain can be seen at this point in the rise and fall of the membranes covering the

brain, as this movement resembles the rise and fall of a fountain, it has been called the fountanelles. It often happens that the nurse will be alone with the patient during labor, the physician does not reach the house in time and the nurse is called upon to assist in the delivery of the child without the assistance of the doctor, and she should have sufficient knowledge of this branch of nursing to be able to conduct it without assistance in an emergency, as the life of both mother and child will often depend upon her skill. The nurse should not assume this responsibility alone. It is best, when the physician cannot be had, to call someone else in. While in perfectly normal cases everything may be alright and there is no danger, if the nurse should be unfortunate and lose the baby she might be unjustly blamed. And if she forceably holds back or prevents the birth of the head, it might injure both mother and child, she may hold it back as she has seen the physician do, so as to give the perineum time to stretch, and if the patient is having very hard bearing down pains, the nurse may place her on her side and ask her not to bear down during a pain, and give her a little chloroform, and the progress may be retarded if the head is not visible at the vulva. When the child is about to be born, and the physician has not arrived, place the patient on her back with knees drawn up. Then the nurse cleans her hands as for a surgical operation, according to directions already given. Be sure they are well scrubbed and clean. After immerging them for a few minutes in a one to two thousand bichloride of mercury solution, clean the patient's external genitals, after which the patient is brought across the bed towards the light.

The clothing should be thrown back and the nurse should watch the perineum. Place a basin of bichloride solution, in the strength of one in two thousand, with pieces of sterilized cotton in it to use to wipe away any discharges that may escape from the anus, care being taken in doing so not to soil the hands. The nurse disinfects her hands thoroughly and assumes the position of the physician. She should observe the same rules in regard to the preservation of the perineum as the physician does, namely, allow the head to come through slowly and between pains. About an hour and a half before the head is born the pelvic floor bulges out during a pain and the child's head becomes plainly visible. The nurse watches the rectum, which now opens, that no discharge escapes. The basins with the cotton and solution should be close at hand and she wipes all discharge from the vulva with antiseptic solution. As the child's head becomes visible at the vulva during a pain and causes it to bulge outward, the nurse should gently restrain the birth of the head by pressure on it with her fingers during a pain. Pressure upon the perineum during a pain to diminish the tension in the medium line where rupture usually occurs. To accomplish this, when the presenting part begins to distend the vulva, the nurse should place the right hand against the perineum about half an inch from the orifice of the vulva, and as the head distends the vulva the nurse should support the perineum and pelvic floor by making firm upward and backward pressure, and if the head is being driven, as it were, with too much force, the nurse gently restrains the birth of the head by pressure on it with the fingers of the left hand during a pain, asking

your patient not to bear down, but open her mouth wide and breathe during a pain, and watch your opportunity to let the head slip slowly out between pains.

After the perineum is stretched so that it seems as though the head may come through in the interval between pains, ask the patient to bear down a little and the head will come. Thus the head is born gradually and the possibility of a tear is lessened. If the head sticks against the pubis, sometimes by a movement of the finger we are able to relieve this pressure and the difficulty is adjusted. The head is the largest part, after it is born the rest of the body easily follows. After the head is delivered insert the fingers in the passage and see if the cord is around the child's neck, and if so loosen it by drawing on the placental end until it can be slipped over the head or the shoulders can pass through the loop. If this is impossible, either because the cord is too short, or because it is wound several times around the child's body, a ligature should be applied and the cord tied, or if in a hurry, and the child is in danger, and you want to save time, a pair of artery forceps should be applied to both fetal and placental ends of the cord, these, of course, should have been sterilized by boiling 20 minutes, in anticipation of an emergency, and ready, and the cord cut between the ligatures or forceps, and labor hastened by artificial efforts. This consists in rubbing the uterus with the hand in circular movements through the abdominal wall. This excites labor pains, during which ask your patient to hold her breath and bear down and the child is usually expelled spontaneously.

After the delivery of the head the first thing to do is to wipe the mucus from the nose and mouth with cotton, wet in a saturated solution of boric acid, and remove it from the throat by inserting the finger, so that when the child gasps nothing can be drawn into its lungs. The eyes should then be carefully cleaned. Wipe all the secretions carefully from the lids with little cotton balls or plegets and a saturated solution of boric acid, which has been prepared for that purpose. Wipe from the eye-ball or nose, never towards it, using a fresh cotton ball or pleget each time. Be sure they are clean. Children have gone blind from neglect of this kind. Support the head with the hand and see that it does not lie in the discharge. After the head is delivered insert the fingers and draw the arms of the child down, they are folded across the chest, and when drawn down aid much in the delivery of the body. If difficulty is experienced, hook the fingers in the arm pits and extract the shoulders. But it is best, nearly always, to let nature take its course, unless we are sure of the position. It usually comes safely. It requires an educated touch, and we might injure some of the membranes.

When the shoulders of the child is born the head of the child should be raised up with the left hand while the right hand guards the perineum. If the child seems asphyxiated the nurse should use those methods to resuscitate the baby as will be found in chapter on "The ills of the baby," elsewhere in this book. If the nurse has to give her attention to the baby she should have someone to hold the fundus of the uterus, and see that it does not relax. In normal cases, as soon as the child is born, the nurse places it a short distance from the mother so she will not press

on the child or cord or injure it with her feet, on its right side, and covers it with a warm towel, and then grasps the fundus of the uterus through the abdominal wall, but does not massage it unless there is a hemorrhage. The nurse should have an assistant to help her, if there is none in the house, call some married woman, in the neighborhood, that can hold the fundus, while the nurse gives her attention to the child. If the cord is not beating, it must be tied immediately and the baby made to cry or it will be asphyxiated.

Tieing the Cord.—The cord should never be tied except in conditions described above, until the child breathes and cries lustily. If the child is white, or blue, don't interfere with the cord until the child cries. If it does not cry throw cold water on the chest or back, it will then gasp and catch its breath; or catch it by the feet, hold it up, head downward, and spank it. This usually suffices. If, however, it does not respond to this treatment, artificial respiration must be given. There are several methods which are described in chapter on "The ills of baby." After baby is breathing properly and the pulsation has ceased, the nurse may wait until the delivery of the placenta before cutting the cord, unless the mother has a hemorrhage. In the meantime the doctor may arrive, and will appreciate this thoughtfulness on her part, and there is no danger attached to it for the child. If, however, the placenta is expelled, or it is desirable to separate the child, the cord should be tied about two inches from the navel and again further down, and cut between, close to the umbilicus end, using sterile scissors. If the cord is not left long enough to fold over to one side, it is very difficult to dress it as it should be, and

often produces a "pouting" navel, and may result in an umbilicus hernia. Narrow, flat linen bobkin tape is the best ligature. The most important reasons for tieing the cord twice is the possibility of twins, if not tied securely the unborn child might be bled to death. The tieing of the placental end, also, prevents the placenta from becoming flat from the loss of blood. It is not so easily expelled when flat. The nurse should tie securely both the fetal and maternal end of every cord before cutting it. After the cord is cut it should be wiped free from all blood and a piece of sterilized absorbent cotton saturated with a one in two thousand bichloride solution is wrapped around the stump. The baby can then be wrapped in the warm blanket prepared for it and removed to a place of safety. The medical profession defers tieing and cutting the cord in weak babies until pulsation has ceased, giving as the reasons that a certain quantity of blood passes from the placenta to the child and thus increases its strength and resistive powers. To tie the cord immediately after the birth would rob the child of this blood, which would otherwise pass into its circulation, and a delicate, weak baby has need of all the blood it can take, and as a proof is found on experience which I have witnessed. Cases where the physician has deferred tieing the cord until pulsation had ceased. The cord is pale and when cut very little if any blood is lost. Where, as in some cases I have seen where the physician tied and cut the cord immediately after the birth of the child, the cord was red in color, and when cut quite a large amount of blood escaped. So in the absence of the physician it is best, and safer, if there are no complications, and the baby is weak, to wait until

pulsation has ceased. Late lagation is not dangerous. The child will take into its system only the amount of blood required for its needs. A strong, vigorous baby, the cord should be cut shortly after birth, as the little heart's functional activity is very great and too much blood is sent to the liver. This causes an enlarged, congested condition which often results in jaundice.

Delivery of the Placenta.—From the time baby arrives, special attention should be directed towards uterine contractions, delivery of the placenta and avoidance of hemorrhage. From the birth of the child there should be someone to hold the fundus of the uterus, to prevent it becoming lax. To hasten contraction of the uterus and expulsion of the placenta apply friction by circular movements through the abdominal wall to the fundus of the uterus until contraction is obtained. Make no effort to deliver the placenta until the mother has uterine contractions. When the mother has pains and the uterus contracts down, the nurse should assist the patient by grasping the fundus so as it will rest in the palm of the hand, compressed between the thumb and finger, and press downward in the direction of the pelvic canal. When the placenta appears at the vulva grasp it and twist the cord and membranes round and round. Never pull on the cord or you may have serious consequences. Continue the circular movements until the placenta is expelled. By twisting the cord and membranes you form a rope-like cord and nearly always all are expelled. The placenta will, as a rule, be expelled spontaneously. The uterus, however, if left unaided is apt to relax and cause hemorrhage, or where expulsion does

not take place speedily, in a reasonable length of time, the uterus may close down so as to retain the placenta within the uterine cavity. So by contraction of the uterus hemorrhage is avoided, and speedy expulsion guards against the danger of retention. After the expulsion of the placenta a teaspoonful of fluid extract of ergot may be given as a safeguard and additional security against hemorrhage, and knead the uterus firmly until contraction is excited. The kneading should continue for one hour. This is a safeguard against hemorrhage, and by the prevention of the formation of blood clots, diminishes the severity of the after pains. Save the placenta for the doctor's inspection. By this examination he is able to tell if any of it or the membranes are left in the uterus. The smallest particle remaining in the uterus will decompose and may cause septic poisoning. The doctor usually reaches the house before the delivery of the placenta. If, however, the placenta is delivered and the physician has not yet arrived, and the patient is bleeding considerable, 15 M, of ergotole hyperdermically may be given. Ergot, in any form is never given while the uterus contains either the fetus or the placenta, as it might close down tight and retain them in the uterine cavity. As soon as the uterus contracts down well the binder is applied. Mother's and baby's toilet according to directions given elsewhere.

Other Presentations.—While the head is the normal and most frequent presentation, the infant may present any part of the body at the pelvic opening.

Breech Presentation.—In breech presentation, the delivery of which requires more skill and labor than

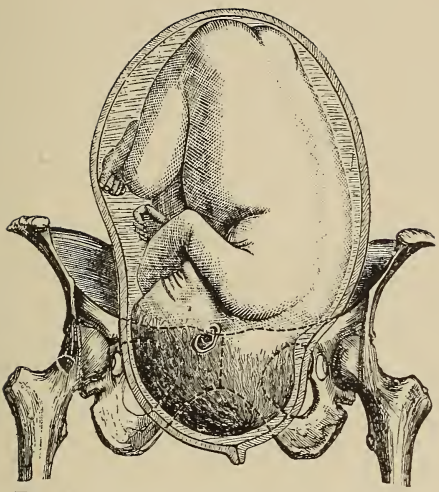

Fig. 40—Vertex presentation. (Pinard.)

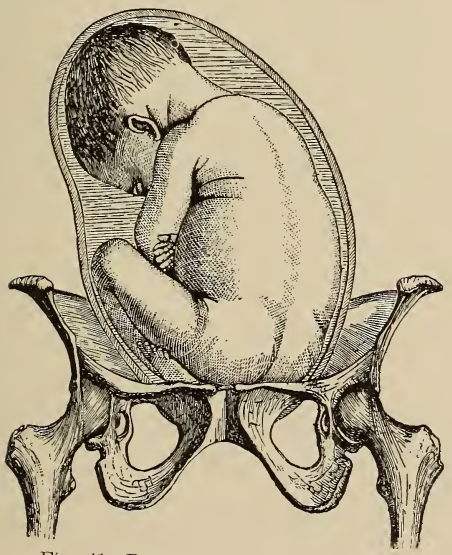

Fig. 41—Presentation of the breech.

the normal position, the head. Position of the patient the same as head presentation. When the breech appears at the vulva ask the patient to bear down during the pain, and by gentle pressure over the uterus, in the direction of the pelvic canal during the pain, assist the paitient if possible. As the breech emer-

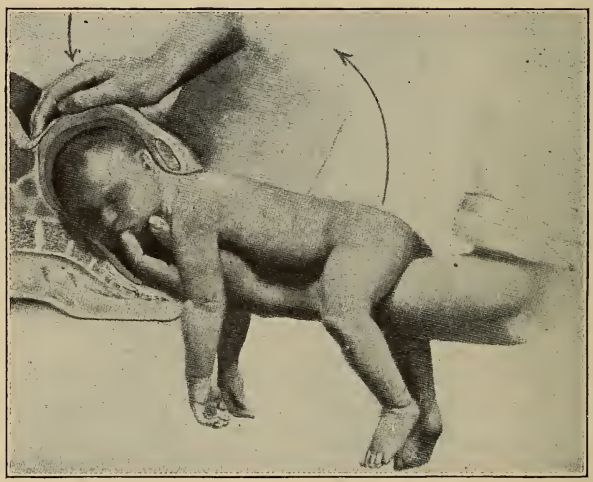

Fig. 42—Delivery of after coming head by flexion through seizure of lower jaw.

ges the legs of the child drop out and the nurse should receive and support the body as it is delivered. After the shoulders are born, the nurse should insert the finger of the right hand in the child's mouth, and with the left hand press upon the uterus and hasten the delivery of the head, or the child may be asphyxiated.

Arm or Transverse Presentation.—In arm or transverse presentation send for the physician nearest at hand. The responsibility is too great for delay. The position must be changed or both lives may be lost. So if the nurse is not certain of the position,

and the conditions are not normal, if the physician cannot be had that has charge of the case, don't wait until it is too late, but send for the nearest physician.

Prolapse of the Cord.—This is a very rare occurrence, yet one of great consequence, and one that every nurse should be familiar with, the presentation of the umbilicus cord. It is a very serious condition for the child. When the cord presents at the vulva, the nurse will easily recognize the cord and she should

Fig. 43—Knee-chest position.

send for a physician immediately. While waiting his arrival place the patient in the knee chest position, or elevate the hips by placing several pillows under them and with a large pad of sterilized absorbent cotton the nurse closes the vaginal opening and holds the pad in place by firm pressure against the vulva with the hand being careful not to press on the cord. There is no advantage gained by putting the cord back in the vagina. To be of any consequence the cord must be put back beyond the crevical os. This is impossible.

So should a nurse have a case of prolapse of the cord, send for the physician at once, and while awaiting

Fig. 44—The elevated Sims' position.

his arrival keep the patient in the knee chest position, If the patient complains of dyspnea or much distress the elevated Sims position is preferable.

HEMORRHAGES.

General Direction.—One of the greates dangers attending child-birth is hemorrhage. This may take place either before, during or after the birth of the child. Where hemorrhage occurs keep in mind, in such a case, there are two things to do, to control the hemorrhage and revive the patient. To revive the patient before stopping the flow of blood would aid her in pumping out her heart's blood. So the first thing to do is to stop the flow of blood and then revive her. To stop the flow of blood from an artery, pressure should be applied above the wound. An important fact to remember is where the blood is coming from and the course of the blood vessels, to know where to apply this pressure. The uterus is supplied with blood vessels that come through the broad ligament from each side, and it is difficult to bring pressure to bear directly upon these vessels. But we can stimulate the uterus so it will contract down on and compress

these arteries by kneading the uterus in circular movements through the abdominal wall; knead firmly and if the uterus will not respond to stimulation, ice sometimes applied to the abdomen will stimulate contractions. The pillow should be removed from under the head of the patient and the foot of the bed elevated about two feet, by placing a chair or box or table under it, this is to get the blood back to the brain. Open the window and let the patient have plenty of fresh air, being careful not to allow draughts, and keep her covered.

If bleeding has ceased or has been controlled, the patient should now be given a stimulant to revive her. Give whiskey, aromatic spirits of ammonia, hypodermic injection of one-thirtieth of a grain of strychnine and a cup of black coffee. If all efforts to secure contraction of the uterus fail give a douche of one pint of sterilized vinegar. This will usually cause contractions when all the other methods fail. It is usually the last we resort to, as it is best to avoid manipulation of the birth canal if possible, because of the danger of carrying germs and infection into it from without.

Placenta Praevia Hemmorrhage.—One occuring during labor sometimes and which is very serious is the placenta praevia hemorrhage, it is the most dangerous one of all hemorrhages of the child-bearing period. It is usually caused by the wrong attachment of the placenta and is often fatal. The blood simply gushes forth. The best way, if any, to control this kind of a hemorrhage is to have someone make firm, continuous pressure on the abdominal artery while the nurse packs the vagina as tight as possible and send for the physician imme-

diately. The contiuous pressure on the blood vessel will prevent the further escape of blood. To accomplish this the nurse should kneel on the bed by the side of the patient so as to be in a position where she can use the pressure to the best advantage possible, she should rest her arm against her side so as to use all the force she can bring to bear on this large blood vessel. This treatment must be continued continuously until the arrival of the physician. This treatment has saved many lives.

Post Portum Hemmorrhage.—One immediately after labor or delivery is known as post portum hemorrhage. It is not an uncommon event; it may follow the easiest normal labor, and in a few minutes carry the patient to death's door. It is caused by failure of the uterus to contract down properly and lacerations of the blood vessels in the cervix of the uterus. The danger does not end with the expulsion of the placenta. The nurse should watch her patient closely for several hours. Should the uterus become lax, knead it until it contracts down firmly, and hold it, and do not let it soften again. If it begins to soften or relax, stimulate it by kneading through the abdominal wall. If the uterus is so soft it cannot be felt, knead it very vigorously and it will usually contract down. The uterus is very sensitive to massage and it usually responds to this treatment. Should this treatment fail to control the hemorrhage and the uterus, in spite of kneading, remain lax and soft, put your hand up in the uterus and with a piece of sterile gauze wet in sterilized vinegar swab the uterus well. Carry the gauze saturated with vinegar up into the cavity of the uterus with the right hand and with the left hand press very hard

down upon the uterus and try and make it contract. If you cannot get sterilized vinegar, use unsterilized vinegar and follow by a hot bichloride douche in the strength of one in four thousand, and the temperature of the water should be from one hundred and ten degrees to one hundred and fifteen degrees F. Hot water acts as an astringent, contracting the blood vessels. It, of itself, will often stop bleeding. This is an emergency, when in order to save the woman's life, you must act quickly. Life depends on the rapid action of the nurse. If the physician is not there she should keep her presence of mind and observe all antiseptic precaution as far as she is able. Give, as soon as contractions are secured, a hypodermic injection of 15 m. of ergotole. Ergot, by mouth, acts too slowly to prove of service in an emergencey, it is nauseating to some patients and may not be absorbed by the stomach. If the hemorrhage is large and the patient seems weak; after the uterus has contracted well down, give a hypodermic injection of one-fiftieth of a grain of digitaline and one-thirtieth of a grain of strychnine and watch the patient carefully until the physician arrives.

Recurring Hemorrhage.—Hemorrhage occuring during puerpurium is termed recurring hemorrhage It is caused either by the separation of a thombi from the placental site, or a congested condition of the endometrium, the mucus membrane that lines the cavity of the uterus. The treatment consists in quiet rest in bed and hot vaginal douches. Ergot is usually given three times a day, a half a dram, for several days as a security against reccurrence. Should it continue the uterus should be packed with sterile gauze.

Hemorrhage of Abortion.—For hemorrhage following abortion, the only treatment is to pack the vagina tight with sterile gauze and give one dram of fluid extract of ergot. This usually is all that is necessary.

Secondary Hemmorrhage.—A hemorrhage occuring several days after a previous one has been controlled, is known as a secondary hemorrhage. It is usually controlled by giving a teaspoonful of fluid extract of ergot and stimulating the uterus by massage.

Symptoms of Hemorrhage.—Besides the external bleeding the face and lips of the patient are pale, the brow is usually covered with a cold sweat, a rapid running pulse, the face is palid and wears an anxious expression. The pupils are dilated. The patient complains of feeling very faint and weak, and if not controlled is a reasonable length of time the patient becomes unconscious and may die. The nurse must keep cool and not lose her presence of mind as life depends upon it.

Eclampsia.—The next most serious emergency likely to arise is eclampsia. It is the occurrence of convulsion followed by coma, and like hemorrhage, it is very dangerous. It may take place during pregnancy, labor or the puerperium period. The cause of eclampsia is not exactly known, but is supposed to be due to the improper action of the kidneys; toxemia or blood intoxication. The cardinal symptoms are uncontrollable headache, symptoms of imperfect vision, vertigo, an unusual desire to go to sleep, eye symptoms, flashes of light before the eyes, odema of the face and extremities; disturbance of memory; anomalities of the senses; scanty secretion of urine and the

presence of albumen and cast in the urine. The patient suddenly becomes unconscious and goes into a convulsion. The mouth is drawn to the side and facial contortions are hidious, and the whole body is shaken by a strong muscular spasm which seldom lasts longer than one minute. On awakening from an attack the patient complains of headache and pains in the muscles. The body is often covered with a cold, clammy sweat. During the spasm there is great danger of the patient biting her tongue severely. To prevent this a firm object should be placed between the teeth at the beginning of the spasm. A clean clothespin or the handle of a tooth brush is useful for this purpose. Place the prong end of the clothespin or the handle of a tooth brush in the mouth between the teeth. Often the patient dies in the first attack or convulsion follows convulsion with lightning rapidity until death occurs from exhaustion. The fetus is usually still born.

Treatment.—The first thing to do is to send for the physician nearest at hand and while awaiting his coming give a saline laxative. If it is possible, while the patient is able to swallow, give a large dose of epsom salts, at least one ounce, if it is impossible for the patient to take this medicine because she is unable to swallow the large dose, give four drops of croton oil on a little sugar. This can be given even if swallowing is hard. The bowels must be made to move freely. A saline enema should also be given. The nurse may administer ether to counteract the convulsion.

Chapter X.

COMPLICATIONS OF THE PUERPERIUM PERIOD.

Sepsis.

The mother, during the puerperal state, requires the most careful nursing. If we study the phenomena of labor we will see that it is a process that exposes the mother to wounds; that the detachment of the placenta leaves a raw wound the size of a saucer in the uterus. There are denuded places in the birth canal. If germs, which cause inflammation, are permitted to enter the birth canal they very liable to penetrate the raw surface and give rise to inflammation there. This constitutes that very dangerous condition known as puerperal sepsis. Our knowledge of wounds teach us that the mother is a surgical case, exposed to the same dangers as any other surgical case, to infection or puerperal sepsis. The nurse who sees only hospital work is apt to underestimate the danger; antiseptic precautions are less strict in private homes. Sepsis may rarely occur even after care. Child-bed fever is caused by poisons produced by microbes or germs gaining an entrance to the genital tract and infecting wounds along the birth canal. The interior of the uterus is, after labor, in a condition fit for the reception and development of septic germs. Death does not represent all the danger or damage that may be

done. The patient may be sick long after. If we are to take proper care of such a case, the patient must have the same treatment, the same care, and the same surgical cleanliness must be observed that is given a patient upon whom a surgical operation has been performed. We must apply the principles of asepsis during labor and afterwards. And the nurse must observe the same aseptic precaution with regard to her hands and clothing and any article which she may use on or about the patient. Instruments, even

Fig. 45—Ignatz Semmelweis, the discoverer of the cause of puerperal infection.

sterile, may carry infection from without. This may be prevented by disinfecting the field of operation. Semmelweis, the discoverer of the cause and the inventor of the means of prevention, in 1847 first taught asepsis in labor. Semmelweis, then a young interne in the obstetric clinic of the General Hospital

of Vienna, noticed, with appalling horror, the great mortality of the clinic in which he practiced. He worked hard and long to find the cause. He noticed that the mortality was greater in the clinic where the students and physicians practiced who went from post-mortem cases to the confinement room and delivered the expectant mother, than the midwives' clinic adjoining. He worked hard and long to solve the problem. He argued that the poisons were carried on the hands of the students and physicians to the lying-in woman. He made a rule that hands inserted for examination should be washed in antiseptics. Chlorin water, was the only antiseptic at that time. His method saved many lives. The death rate decreased from fifteen to seven per cent. Nothing was known about antiseptics at that time. He taught that puerperal fever is caused by the introduction of septic material from without. He was ridiculed and abused by the profession, and almost unaided he maintained this position for years, and to him belongs the undying credit of having pointed out the cause of this awful scourge and the means of prevention. He died insane with no other reward than the scorn and contempt of his contemporaries, but his good work lives and is used with benefit. Puerperal sepsis is nearly always due to failure to properly cleanse and disinfect the genitals before an examination in labor; to making an examination with unclean hands; to the use of instruments which have not been properly disinfected; failure to keep genitals covered with sterile antiseptic dressings after labor; changing the dressings without properly cleaning and disinfecting the hands, and by there remaining in the uterus some pieces of the placenta or mem-

branes. The occlusion dressing should be aseptic and antiseptic as herein described to prevent and protect the wound against infection. If these parts are prepared before and during labor, and protected after labor as herein described, there is little fear of danger of this kind. Doctor C. S. Bacon, of Chicago, in a paper read before the Southern Illinois Medical Association. November 6, 1902, says, "The mortality from puerperal fever can be reduced to almost nothing by the proper management of labor and child-birth. This has been proven by the results obtained in the best maternity hospitals. Mild cases of infection cannot be entirely prevented, but they cease to be a source of great anxiety to the physician and of danger to the mother. In private practice these encouraging results, due to the aseptic management of labor, are not obtained because labor is not managed aseptically. In Chicago the mortality from puerperal infection has remained about stationary for the last ten or twelve years. From five to seven per cent of all death of women of child-bearing age are from puerperal infection. It is probable that the same ratio holds all over the state and country. Hence it appears that puerperal infection carries off more women in the prime of life than any other disease except consumption. How much sickness, not fatal, is due to the same cause can be easily imagined. These discouraging conditions are due in part, no doubt, to the fact that a considerable number of confinement cases are still in charge of incompetent midwives and women with no training whatever. So far as the responsibility of the profession is concerned the trouble is that the matter of the aseptic management of labor is not taken seriously enough. The frequently

repeated observation that many women get along all right in the worse surroundings seems to create a doubt in the minds of many whether all the bother required to manage a labor aseptically is necessary. The source of all the trouble is, I believe, the failure of both the laity and the profession to recognize the importance of labor and its management." So the nurse will see how necesary it is to use all precaution. The treatment lies in the prevention, the source of the disease being known it is possible to avoid the cause. This lies in absolute surgical cleanliness.

Puerperal sepsis usually makes its appearance on the third or fourth day after delivery. It is commonly ushered in by a chill, followed by a high fever, the temperature rising as high as a hundred and three to a hundred and five degrees F. The pulse is rapid and running with an anxious expression of countenance. The patient is restless and uneasy. The lochia discharge is altered and suppressed. But it must be remembered that because the obstetrical patient has fever it must not necessarily be septic; it may be caused by the condition of her breast or bowels and many other causes, but, of course, the first thought that presents itself to us is that it is sepsis.

This infection may be general or local. The later is confined to the vulva, vagina and uterus and is less serious. The former affects the whole system and is usually fatal.

THE BREAST.

Engorgment of the Breast.—This is the most common complication affecting the breast, and at the same time a very painful complication. The breasts becomes very much engorged and are heavy and hot and very paintul.

Fig. 46—Breast bandage applied.

Treatment.—The usual treatment is to apply the breast binder tightly and regulate the flow of milk in

Fig. 47—Breast bandage showing how to cut a jacket bandage from a straight piece.

this way. Some physicians order, if the case is severe, hot compresses, others ice bags. I have always found,

by paying close attention to them on the third and fourth days; massaging them gently if they seem over-distended, and then controlling the flow by applying a breast bandage, the glands will secrete evenly and this painful condition is prevented.

Fissures and Cracks of the Nipple.—These are very important because they render nursing difficult and sometimes impossible. The nipple should be washed with boric acid before each nursing, and after baby has finished nursing the nipple should be washed off with a little witch hazel. If small or sunken, they should be pulled out with thumb and index finger and much trouble may be saved by putting the infant to the breast and teaching it how to take hold before they become engorged. If the patient complains of soreness or a tenderness when baby takes hold of it, the nurse should examine them carefully, and special care given them. They should be cleansed carefully after each nursing, and a nipple shield made of a glass bulb and a soft rubber nipple should be used to save the mother as much pain as possible. The nipple and shield is cleansed thoroughly after each nursing and kept in a five per cent boric acid solution, and both nipple and shield should be boiled once a day. The nurse should report to the physician as soon as she detects a crack in the nipple and get extract instructions from him in regard to treatment.

Mastitis.—Mastitis or inflamation of the breast is of microbic origin, and are of three kinds. Those in the granular tissue itself called the parenchymatous; second, those in the connective tissue, just beneath the skin, called the subcutaneous; and thirdly, those in the deep connective tissue beneath the gland, called the

postmammary. This last is very serious and rare. They are caused by cracks or fissures upon the nipple. Germs, which are of microbic origin, get in and follow the milk glands. This causes inflammation, congestion of the parts and finally superation.

Symptoms.—Pain in the affected breast, and particularly in one place. The part is inflamed and swollen; is hot and sensitive. As soon as the nurse detects any sensitiveness or redness of the breast she should inform the physician at once, and support the weight of the breast with a bandage.

Puerperal Insanity.—This condition is not often met with in obstetrical nursing, and when it does occur, it is very sad. Melancholia and mania are both present. Suicidal tendencies are strong, also, often the desire to kill the child.

Symptoms.—The symptoms are the loss of love for the child; the mother will not have it near her, she seems to hate the infant and will not nurse it and the sight of the child seems to excite her. She is restless and does not sleep well; has delusions of sight and hearing and indistinctiveness of speech. In nursing such a patient the nurse must use great watchfulness that the patient does not destroy herself or child. She must not be left alone a single instant, two nurses are absolutely necessary. The room in which the patient lives should be arranged and furnished to prevent her jumping out of the window, and only the absolute furniture necessary in the room, in fact the general rules for the nursing and care of the insane are applicable here. The patient's nutrition must be kept up, like insane persons the patient may refuse food and have to be fed with the stomach tube. There

is no other condition in which a conscientious trained nurse can be so valuable. Use great tact and kindness and try and win the confidence of the patient. Never use force, except when it is a question of life, it only excites the patient and nothing is gained. Recovery is rather slow.

Paralysis.—Paralysis following labor is due to injury to the pelvic nerves, caused usually by pressure of the presenting part pressing on them, or the instruments, or failure to use forceps at the proper time, thus allowing the pelvic nerves to be injured by continued pressure.

Septic Phlebitis.—Septic phlebitis or milk leg as it is commonly called by the laity, is caused either by obstruction of the femoral vein by a blood clot or an infection of the vein and cellular tissue. The former generally results from cold or overexertion, the latter explains itself. The patient may first complain of pain in the neighborhood of the groin, the leg swells and becomes very painful, white and tense. It is usually accompained by a fever and often a chill.

Treatment.—The treatment is absolute rest, support the limb, do not let the bed clothes rest upon the foot Nothing must touch the limb, and keep it warm by wrapping it in cotton or flannel. Massage or rubbing is very dangerous. The immediate danger lies in the fact that a portion of the blood clot becoming broken off may be carried by the circulation and lodged in one of the vessels of the heart or lungs with fatal termination. The conditions gradually subside, but sometimes weeks elapse before convalescence is complete. Often there is a formation of serum or pus. This must be opened and drained.

Subinvolution.—Subinvolution is the arrest, or hindered, or incomplete return of the uterus to the normal size and condition after labor and child-birth, and gives rise later to much discomfort. It is due generally to severe lacerations of the cervix or a lack of tone in the uterine muscles, or the presence of large blood clots in the cavity of the uterus. A failure to nurse the child may predispose to subinvolution. The treatment lies in the removal of the cause which is the physician's duty.

CHAPTER XI.

POINTS OF SPECIAL INTEREST DURING PUERPERIUM.

Sleep.

The nurse should insist on the family keeping out of the lying-in chamber. It is so strange, women who have been mothers themselves, who one would expect should know the importance and necessity of quiet sleep, and rest after labor, should be so thoughtless, they call and almost insist on seeing the patient. No one should be allowed in the room immediately after labor except the father of the child. Keep the mother quiet. The patient, after she is dressed and toilet over should be encouraged to go to sleep. The exertion of labor is usually followed by a feeling of comfort and repose. The patient is often inclined to talk. This should not be allowed, but the patient encouraged to go to sleep.

Chill After Labor.—The birth of the child is often followed by a nervous chill or rigor, which is usually of short duration and seldom lasts over ten minutes. it is of little importance and is caused by the shock of the sudden expulsion of the uterine contents and the great muscular effort the patient has been through. It is usually relieved by applying hot water bottles and being warmly covered after which the patient usually,

when encouraged, falls into a refreshing, restful sleep. It is never accompanied by a rise of temperature.

The Pulse.—The pulse exhibits a remarkable diminution in frequency, lower than her ordinary normal pulse. In perfect normal cases it ranges from 50 to 70 beats per minute. Usually more marked on this third day. It is not influenced by the establishment of lactation.

The Temperature.—The temperature is about the same as in health, although a rise of a half of a degree to a degree and a half is not unusual on the third day, caused by the disturbance attended upon the establishment of lactation.

The Abdomen.—The abdomen is tender under pressure, but this should diminish daily and after a few days disappear. It is caused by severe labor, or a great deal of manipulation during labor. Ice bags applied to the abdomen will prevent and correct this condition.

The Uterus.—The uterine contractions should be firm and persistent. At the close of labor the fundus is midway between the umbilicus and pubes, and by the ninth day it should be behind the pubes. Watch the bowels and bladder and see that they do not become full and cause misplacement.

The Appetite.—The appetite is diminished and thirst increased.

The Skin.—The skin is active and the patient sweats freely and is consequently susceptible to changes. The nurse must be careful of draughts.

The Bladder and Bowels.—The bowels are usually sluggish and the urine abundant. The first two or

three days following confinement the retention of urine is common. Many women who are unable to urinate when reclining can do so when raised to a sitting position.

The Lochia.—The discharge from the birth canal after delivery is termed lochia. At first the normal flow is composed of pure blood with clots and shreds of membrane, but after the first day it contains a large per cent of serum. About the fourth day the discharge is quite pale and it continues to lose its red color, and about the eight day it is a greyish-cream color, and of the creamy consistency. Microscopically after the third day the lochia contains red and white blood corpuscles, shreds of cast-off membrane which contain hundreds of germs. The germs are harmless, not perulent, unless the patient is septic. It gradually diminishes in quantity from the close of labor. The duration is from three to six weeks. It varies in different women, usually according to the menstrual flow. Those who menstruate freely, generally have a profuse discharge after birth, those women whose menstral flow is scant, the lochia discharge will not be so abundant. After the patient is allowed to sit up, fresh red blood often makes its appearance. It should never have a fetid odor. Watch the discharge for any unnatural odor and save a pad each morning for the doctor's inspection. Note the character and amount of the lochia, clots and membrane expelled, also the position of the uterus on the record sheet, note, also, anything abnormal and save same for the doctor's inspection. Be very careful of all vaginal discharges. It is never to be gotten into abrasions of the skin or the eyes. If gotten into the eyes it will often produce blindness, and if gotten into abrasions of the skin it

may carry with it septic germs. The nurse must be very careful of her hands. Be careful to cleanse them thoroughly after each manipulation around the genitals before touching or handling the breast as it is possible to carry infection to them in this manner. Nurses may carry infection on their fingers from the lochia of a perfectly normal puerperal and infect the mother's breast and the infant's eyes if care is not exercised to keep the hands clean. When the discharge is infectious and there is a suspicion of gonorrhea or syphilis rubber gloves should always be worn as a personal safety.

The Breast.—The breasts are distended and on the third day of the lying-in period the milk appears. The breasts then become full, hard and tense, and are very painful. The auxiliary glands enlarge and radiating pains are felt in the arms and breast. It often causes considerable disturbance and is sometimes ushered in with a chill and rise of temperature. Treatment has already been described.

Lacerations.—Lacerations of the perineum are very common, but they differ much in extent from a mere skin tear to one requiring sutures, internal as well as external. The treatment the same as other surgical cases, observing strict surgical cleanliness in regard to the dressing, keeping the wound clean by washing and irrigating with antiseptic washes, keeping the parts dry and covered with proper antiseptic powders, such as boric acid or arristol and sterilized gauze or dressings each side of the sutures, and being careful that all instruments used on the patient and the hands of the nurse are surgically clean. With care and treatment of this kind the wound usually heals nicely.

Chills.—A chill with a high temperature is evidence of serious illness, very often sepsis. A chill with no temperature has no important significance.

The Record of the Nurse.—The nurse should keep a daily record or history of the cases of both mother and child until the case is discharged. Keep it neatly and accurately filled up to the date and hour, always ready for the doctor's inspection. If the case is a perfectly normal one, he may not pay much attention to the record, just glance over it; but if any complications present themselves he will feel very grateful to find an accurate history of the case.

CHAPTER XII.

OBSTETRICAL OPERATIONS.

Frequently in the course of labor difficulties present themselves which, in order to save the mother and child, an operation becomes necessary. The general rules for surgical nursing apply in obstetrical nursing. The same surgical care and cleanliness must be observed in the care of an obstetrical patient as one upon whom a surgical operation has been performed. No surgical patient is more susceptible to infection than a lying-in woman. If during the course of labor the possibility of an operation is considered, the nurse should make the necesary preparations according to the nature or extent of the operation. A kitchen table makes an excellent operating table, this is covered with a blanket, to make it soft, and over this is placed a labor pad made of old newspapers and sheet as already described. Any small table, sewing table or similar one, makes an excellent one to hold the instruments and solutions. Or a table may be made by placing a table-leaf or ironing board across two chairs, and these do very nicely to hold the instruments and solutions. But in nearly every home there are small tables that may be used as side tables, these should be covered with newspapers to protect them during the operation. If the physician has a Kelly pad with him it should be

sterilized by boiling twenty minutes in plain water, if he has none, the nurse may substitute one of newspapers by making a roll of newspapers, shaped like a Kelly's pad, covered with a rubber sheet or if there is no rubber sheet obtainable, a piece of oil cloth or a clean sheet may be used. When the patient is placed on it that part immediately under the buttocks, must be covered by towels that have been boiled in a one to two thousand bichloride solution. If a rug is in the room, it should be removed; the floor should be protected by spreading old newspapers around. The room should be warm as the patient is exposed a great deal and there is danger of her taking cold. The best light obtainable must be had, and the table must be so placed that the light enters the vagina. If the operation takes place during the day, the table must be placed facing the best window, and if at night near the center of the best light obtainable. A chair should be placed in front of the table so the operator may sit down if he desires to. The surgeon, of course, furnishes the instruments needed in each particular case, but the nurse should know the instruments in common use by sight and name so as to be of the greatest assistance possible to the surgeon and be able to hand him the instruments he may ask for.

Perineorrhaphy.—This is the most common operation. It is the repair of the perineum. The damage to the perineum may differ from a mere skin tear to one requiring sutures internal as well as external. For this operation the patient is placed across the bed in the lithotomy position. An anesthetic is not given as it predisposes to hemorrhage, and the woman is usually able to stand the pain, as the parts are

benumbed by the stretching caused by the child's head or presenting part pressing on the part, and

Fig. 48.—Lithotomy Position With Limbs Supported by a Sling Sheet.

usually the patient still feels the effect of the anesthetic given her during the birth of the child's head. When the operation is over, the patient's toilet is completed and she is laid on her back in bed, and special care must be used in moving the patient so as not to pull on the sutures, and she should keep her legs still and not move them as the union is delayed by so doing.

Forceps Operation.—This is a very frequent and often a hard operation. When the mother's labor is long, hard and tedious, and do her best, she cannot bring the head or presenting part through the pelvic opening, the physician assists her by the use of forceps. Forceps should never be used unless it is impossible for the mother to give birth to the child, or there is danger for one or both if birth is not hastened. Unless forceps are used at the proper time, and are properly applied and manipulated, they may

do the mother great injury, and the child be permanently disfigured. If it is necessary to use the forceps, the patient should be cleaned. The perenium, vulva and adjacent parts washed with a one to two thousand bichloride of mercury solution, a large bichloride pad in the strength of one in five thousand is placed over the birth canal. All bloody and soiled cloths should be removed and the patient placed across the bed with hips close to the edge, the knees far apart and flexed on the abdomen. The sling sheet is best. It is placed under the knees and tied back of the neck over the shoulders. This is called the lithotomy position. The legs are covered by wrapping a sheet around them, or the long leggins that are used for this purpose are worn. The two foregoing operations are what we might term the "Minor Operations of Obstetric." While they require skill and careful surgical nursing, they are not so serious as some of the others, and fatalilties are almost unknown. Under the term "Major Obstetric Operation," there are several. The most frequent ones are Version and Cesarean Section.

Version.—Version means the turning of the child from an unfavorable to a favorable position; as an arm presentation to feet presentation. The operation is often difficult and hard. If the labor in which a child presents transversely, as in arm or shoulder presentation, is neglected, the child may be wedged in so tight that it cannot be turned so it can be delivered, and the only way to save it would be an abdominal section, "Cesarean Operation." In this operation the uterus is sometimes ruptured in the effort to save the child. This is a sad accident for both mother and baby. The fatalities being about sixty

per cent for the mother and ninety-eight per cent for the child. The child is sometimes lost by the premature detachment of the Placenta. Position of patient the same as for forcep operation.

Cesarean Section.—The Cesarean section operation has succeeded the operation known as Craniotomy. This was a horrible mutilating operation on the fetus. The skull of the child was opened with long sharp scissors, the brain matter extracted, and the infant's head crushed to reduce the size of the head, and the child was extracted after this process. It was a horrible thing to contemplate, the sacrifice of the child to save the mother. But surgical science has advanced so that this awful operation is almost a thing of the past, and with the operation known as "Cesarean Section," the lives of both mother and child may be saved. The operation is performed when the baby is too large, or the passage too small to allow a natural delivery, or when the maternal passages are obstructed by deformity or the presence of a tumer or growth and there is not room enough for the passage of a living child. The surgeon make an abdominal incision and delivers the child in this manner. It is not as serious an operation as is supposed. Mortalities, under good conditions, being about eight per cent. Such a patient should be removed to a good hospital if condition permit. Preparation for the operation the same as those for Lapraotomy. If the patient is operated on at home, great care must be exercised to have everything as asceptic as possible. The preparation of the patient the same as any Lapraotomy patient.

CHAPTER XIII.

THE CARE OF THE BABY.

"The hand that rocks the cradle
Is the hand that moves the world."

Upon the health and welfare of the human race depends on the care and dealing of childern. It begins with the infant in the cradle, that little tiny spark of humanity, and no time from the cradle to the grave, is so important as infancy. No other little animal comes into the world as helpless and remains in a dependent condition as long as a baby. This helplessness renders it particularly liable to disease. So that infancy is a period of special danger. It is our duty, as nurses, to guard and protect this spark of life, and by our skill and care try and comfort the mother who has just passed through one of the most trying ordeals. The care of the infant begins with its separation from the mother, the severing of the umbilicus cord, its existence independent and separate from the mother's is then established.

The first thing to do for a baby as it is ushered into the world is to see that the mucus is removed from the mouth and throat of the infant so when it cries and breathes, nothing can be drawn into the lungs. Next see that the eyes are washed free from all secretions. A saturated solution of boric acid and little cotton balls should have been previously prepared for this pur-

pose. This is the physician's duty, but you will sometimes find he will depute the nurse, and she should know how to do it, and do it well. Sometimes it is neglected and the responsibility devolves on the nurse. Be sure they are clean. Many children in the blind asylums are there from neglect of this kind. The physician usually takes the advantage of a short rest the mother has after the birth of the head to wash the infant's eyes, and the nurse should anticipate his wants and be ready to hand him what is needed. At this pause, hand him the solution, which should have been poured into a clean cup, and the little cotton balls, which should have been made and placed in a clean saucer, for washing the infant's eyes. And with a large pad of absorbent cotton wet with the boric solution, wipe the secretion off of baby's face. The nurse should, however, be very careful and not assume any of the responsibilities that belong to the physician. Should you be alone and the physician not arrive in time, see chapter on "Delivery of the child in the absence of the physician" elsewhere in this book.

As soon as the child is born it is covered by a warm towel, and laid a short distance from the mother on its right side. The nurse should see that it does not pull on the cord or the mother lie on it, or hurt it with her feet or legs. It will gasp or sneeze, this clears the air passages. Then rather a short cry, and then it cries lustily, this expands the lungs, and independant circulation is then established.

The next thing is to be sure the baby is breathing properly. The circulation of an unborn child differs from that of a child after birth. The child in the uterus lives through the oxygen obtained from the

blood of the mother. Thus the child has no need to breathe. The blood of the child passing through the umbilicus cord into the placenta comes so close in contact with the mother's blood that sufficient oxygen passes from the mother to the child for its needs. For these reasons the lungs are empty and require very little blood before birth, and as the cord is really the lungs or breathing apparatus of the child we will see how necessary it is, how important, and why the medical faculty lay so much stress on not cutting this cord until the child cries vigorously. The pulsation first stops in that part of the cord next to the placenta. The lungs of the infant are empty until it draws its first independent breath. With the first inspiration the thorax expands, the air fills the alveoli of the lungs, at the same time the blood passes from the right side of the heart to the lungs and is returned aerated and purified to the left side of the heart. To cut this cord before the child's lungs are expanded, would be to asphyxiate the baby. Because as soon as the cord is tied and cut it ceases to obtain oxygen from the mother. Before birth there is an opening between the two sides of the heart, the foramen ovale, and as the blood is not needed in the lungs nature has provided other means by which the blood is aerated and purified. Through the umbilicus cord. It passes from the right side of the foetal heart into the left side instead of going from the right side of the heart to the lungs. At the establishment of pulmonary circulation, the lungs unfold, the ductus arterious contracts, the foramen oval closes. For these reasons and to assist nature in her work the baby should be laid on its right side for the first eight or ten days. If this opening does not completely close the venus and arterial

blood mixes, and if the lungs are not expanded fully, the blood is not properly oxygenated and we have that condition known as a "Blue Baby," and if this condition is very marked, as a rule, the child does not live long, but dies in the course of twenty-four hours. After the cord is severed it is protected by a large piece of sterilized cotton wrung out of a one in two thousand bichloride of mercury solution and wrapped around it. The child is then annointed well with olive oil. The oil should be rubbed well into the hair, armpits, groin, and wherever the vernix caseosa is abundant. This aids greatly in its removal. After the baby is oiled it is wrapped again in its little blanket and put in a warm place until the nurse is ready to wash it. The longer the oil is allowed to remain on, the easier it is to wash the vernix caseosa off. A strong full term baby may be washed anytime from a half an hour to several hours after birth. It is usually washed at the convenience of the nurse, while the mother is asleep or resting. Be sure its little face is not covered. A baby needs all the fresh, pure air possible for the expansion of its lungs. Examine the child carefully for any possible defects. Before taking the baby up to wash it, the nurse should be sure she has everything at hand .

The Articles Necessary for Baby's Bath.—Large soft bath towel to wrap the baby in during its bath, two soft silk sponges or linen wash cloths, one for the face and larger one for the body, a bath tub or large wash bowl to bathe the baby in, a small clothes horse, towel rack or chair to hang baby's cloths over that they may be aired and warmed near the heat while the bath is given, a low rocking chair without arms, a low table or stool for the basin or tub to

rest on at a convenient height. Boric acid solution for the eyes and mouth, little cotton balls to wipe the eyes and small pieces of cotton or old linen for the mouth. Boric acid powder for dressing the umbilicus and baby's toilet articles such as soap, comb, brush, pins, soft old towels and water the proper temperature.

Temperature of the Room.—The temperature of the room should be about 72 degrees F. The bath should be given near the open fire or heater of some kind and where there is no exposure to draughts.

Temperature of the Bath.—All babies at first need a great deal of warmth, and a new-born baby possesses feeble power of resistance to cold. The bath the first month should be at a temperature of one hundred, Fahrenheit. After the first month until six months the temperature of baby's bath should be ninety-eight. Always test the temperature of the water with a thermometer; never attempt to guess at the temperature by placing your hand or elbow in the water. A nice bath thermometer, one that is small and convenient, is a floating dairy thermometer In case of a weak, delicate baby, it is best not to wash it until the next day. In such a case oil the baby and wipe the vernix caseosa off with absorbent cotton. Wash its little face and hands, apply the dressing to the umbilicus and postpone the general bath until the next day. A tub or plunge bath is never given an infant until the umbilicus cord has come off, which usually occurs within from five to ten days after birth. It should not be given sooner than one hour after feeding, in warm room, and if possible in cold weather, before an open fire. After the first bath, the best time for bathing the baby is in

the morning, midway between feedings. The baby should never be bathed while it is perspiring freely, and be careful of draughts. If baby seems exhausted and the skin bluish after its bath, the bath should be omitted and the baby sponged off.

How to Bathe the Baby.—First wash the eyes with saturated solution of boric acid, wash and flush them well. Wipe them dry with the little cotton balls made of dry sterilized absorbent cotton. Next the mouth is washed with the same solution. Wrap absorbent cotton or a piece of old clean linen or gauze around the index finger of the right hand, saturate the cotton or gauze with the boric acid solution and gently wash the tongue, roof and between cheeks and gums. Then next the nose is cleansed by inserting cotton wet and rolled small enough so it enters the nostrils without difficulty. This causes a tickleing sensation, which will cause the infant to sneeze. The sneezing clears the air passages. The little face is then washed and dried, using no soap on the face. The clothes are then removed, with the exception of the napkin, and the little body is wrapped in a soft old woolen blanket or a large soft bath towel. The head is then soaped well with castile soap. The little head is then held over the bowl, the entire body supported and resting on the left arm of the nurse, while the head rests in the nurse's left hand. She thoroughly rinses the soap off with the use of the right hand, after which the little head is dryed well. The body is then washed with a soapy sponge, particular attention being given to those parts which come in contact, and in the folds of the skin, especially the buttocks. Very little soap is used on a baby, the buttocks being the only part requiring soap. The

first ten days or until the cord comes off, the baby is washed in sections on the nurse's lap, drying and covering one part before commencing another. After the cord is off baby is washed as described, then the little body and buttocks are washed with a soapy sponge and the baby is then lowered slowly and gently in the bath tub or bowl, with its little body well

Fig. 49—Arrangements for bathing an infant.

supported by the hands and arms of the nurse. To prevent shock the baby should have a small towel wrapped around it before immerging it, and to prevent the infant sliding from side to side a small towel or one of baby's napkins is placed in the bottom of the tub for baby to rest upon. The baby is rinsed off quickly and taken out and dryed with a soft towel by gently patting, not rubbing, and particular

attention being paid to the groin, under the arms, the folds in the neck, ears and behind them, the palms of the hands and between the fingers and toes. As a rule the infant should be bathed every day, unless a delicate baby, and everything prepared before it is undressed. The bath given quickly in a warm room. The infant should not remain in the bath longer than two minutes.

Care of the Eyes.—The eyes should be carefully washed night and morning, a solution of boric acid, ten grains of boric acid crystals to the ounce of water, and little soft cotton balls. If any pus appears they should be cleansed every hour, using for this purpose a soft rubber ear syring. Hold the eye open and irrigate thoroughly. Never allow it to harden or form a crust on the eye-lids. It is harder to remove and will cause them to become sore and irritated. Should any pus appear the attending physician should be notified at once. Do not expose the eyes of an infant to strong light. Always turn the face away from the sun and wind. Until the baby is three weeks old, it should be kept in a moderately darkened room.

Care of the Mouth.—The mouth should be cleansed before each feeding and after baby's feeding, if the baby does not go to sleep. Usually a child falls to sleep after nursing and then it should not be disturbed. The mouth is washed by wrapping a piece of old clean cloth or absorbent cotton around the index finger of the right hand, saturate it with boric solution, which is the solution an infant's mouth is washed with. Cleanse the folds between the gums, lips, cheeks, roof and tongue. Be very careful and gentle, as the. mucus membrane is very delicate

If this is carefully attended to, we will never have that condition known as "thrush."

Care of the Skin.—The skin of a baby should feel warm, soft and velvety. It is very delicate and little if any soap should be used, and then only pure castile soap. And when soap is used be very careful to rinse it off well. And in drying the skin never wipe or rub it. This irritates it. Dry the skin by softly patting it with an old towel. Avoid dusting powders, use them sparingly if at all, especially with a fat infant; it gets into folds of the skin, under the arms, in the groin and when baby perspires forms a paste which is very irritating. Dusting powders do more harm than good unless they are properly used. When they are used the superfluous powder should be brushed off with a soft camel hair brush, such as is used as a hair brush for babies. Generally if the baby is carefully washed and dryed, their use will not be necessary. Should the skin be very sensitive or the baby chafe, discontinue all soap and substitute the bran bath, which is made by putting enough bran in a coarse cloth or bag, place it in the bath water and squeeze it until the water is thickened. In severe cases the bran bath should be omitted and the body kept clean by mopping it with absorbent cotton and olive oil. The most common place for baby chafing is the buttocks. As these parts are so often wet and soiled, great care must be taken to avoid this painful condition. Remove the napkin as soon as it is wet or soiled, and bathe the parts well. Apply plain zinc salve or mutton tallow in which a little gum camphor is dissolved, liberally, and for heat on baby's body, sponge the parts with equal parts of vinegar and water. After its morning

bath each morning, baby is rubbed well with olive oil. This keeps the skin in good condition.

Care of the Cord.—Wrap the stump of the umbilicus cord with aseptic absorbent cotton, wet with a one in two thousands bichloride solution and lay to the left side immediately after birth. If the cord is not left long enough to fold over to the left side, it is very difficult to dress it, as it should be, and often produces a "pouting" navel and may result in umbilicus hernia. After baby's bath wash the adjacent skin with a one in two thousand bichloride solution, and wrap a piece of sterilized gauze over the first dressing of bichloride cotton. Then dust boric acid powder freely underneath and around the cord. Boric acid is a mild antiseptic and drying powder and should be used freely all around the cord to hasten drying. Each day when baby is bathed, cleanse the vicinity of the navel with bichloride solution in the strength of one in four thousands and sterilized absorbent cotton, and then dust the boric acid powder freely around the cord. Be very careful and do not wet the stump of the navel cord, and the first dressing that is applied should never be disturbed as long as it remains dry. It usually remains adherent and comes away with the cord. The stump of the cord in a few days shrivels up to a thin, tough, dry strand. At the edge of the skin where the cord is inserted, a line of granulations form which separates the stump. The falling off of the cord should be noted, and the antiseptic treatment of the wound continued until it heals over. The navel is kept surgically clean. The nurse's hands should be cleaned and disinfected before handling it. The cord and navel are surgical wounds subject to infection, and

the same aseptic precaution must be taken and observed in dressing and handling it as any other surgical case. Many infants die from infection which usually results in tetanus. In many cases it is the result of negligence in not observing surgical cleanliness in handling and dressing it. Should a fetid odor develop, notify the physician. Never put vaseline or any kind of grease or oil on the umbilicus cord. The cord must dry up, and if we put grease on it, it will decompose and may cause serious trouble. Watch the cord carefully for several hours after birth to see that there is no bleeding. There have been cases where babies have become very weak from loss of blood before this condition has been discovered. Should hemorrhage occur, apply a pair of artery forceps, or have some one squeeze the cord tightly outside the dressings. But under no circumstances touch the cord with the fingers. Disinfect your hands and tie the cord again with a piece of sterile tape. Tie just above the first ligature. Now wash the cord and adjacent parts with a one in two thousands bichloride solution, put on a fresh piece of sterilized absorbent cotton saturated with a one in two thousands bichloride solution, and over this your sterile gauze. Then dust freely, as before, with boric acid powder and apply the binder. If umbilicus hernia should occur, it is usually caused by partial failure in the development of the abdominal wall in early fetal life, or to crying or stress against this defective wall. Should it occur, a compress must be used. Cover a twenty-five cent piece, after it has been sterilized by boiling, or a thin piece of cork about the same size and thickness, with several layers of old clean linen or gauze, place it against the cord,

a thin layer of aseptic cotton between; now apply surgical adhesive plaster across it in small strips, interlacing and crossing each other. This often corrects this condition. Care must be taken to keep the umbilicus clean. The compress should be removed every three or four days and the cord cleaned with cotton and bichloride solution, then dust a little boric acid powder around the cord and reapply your compress. In applying the adhesive plaster, try and apply the strips in different places so as not to cause an irritation of the skin. This is often all the treatment that is necessary.

Care of the Genitals.—Perfect cleanliness is absosolutely essential. No secretions should be allowed to accumulate. The parts should be washed daily, usually at the time of the bath. These parts should receive special attention at birth. Male babies, the prepuce or foreskin should be pushed well back and with a little sterile olive oil and cotton all secretion should be wiped from the gland. The penis is then wiped off with a saturated solution of boric acid or a mild bichloride solution in the strength of one in ten thousands, and the prepuce gently smoothed back in place over the penis. Little girl babies are by far the most difficult to wash. The mucus membrane of the labia is so delicate that the greatest care must be exercised not to irritate it, and as a rule the labia, vulva and adjacent parts are covered very thickly with vernix caseosa. The free use of sterile olive oil aids greatly in its removal, allowing it to remain on for some time before removing it. Then with cotton remove it very gently. Sometimes it requires several applications before it is clean. Never rub or use force. Great care must be used not to injure the

delicate external genitals in the removing of the secretion which sometimes accumulates in the little labia folds. To anything abnormal the physician's attention should be called at once.

Care of the Nails.—The nails of a baby are best cleaned with a toothpick. A small piece of absorbent cotton is wrapped around the point so as not to injure the delicate, tender skin. Cut the finger nails round and the toe nails square, to prevent ingrowing toe nails.

The Clothing.—In winter the body should be covered by a soft flannel shirt, and in summer a thin gauze flannel or silk shirt is worn. The abdomen and umbilicus is supported and protected by a flannel band which should fit snug, but not too tight, but be firm enough to give support to the abdominal wall. In the contraction of the limbs in temper a great deal of force is sent to the abdominal wall. If the binder is on properly there is little danger of umbilicus hernia. The abdominal binder or belly band of a baby should go once and a half around the body; it should fit snugly, but not too tight, as it would interfere with the free movement of the chest in breathing, and sometimes, if too tight, it presses on the stomach and causes the infant to vomit its food. If too loose, it will slip up and thus fail in the use or purpose for which it was intended, namely, to keep the vital organs warm, to keep in place the umbilicus dressing, and the most important, to support the abdominal wall. The band should be discarded when the child is about three months old and replaced or succeeded by the flannel knit ribbed abdominal binder with shoulder straps. This style should be worn summer and winter until the child is eight years old. Espe-

cially is it recommended for little boys. There are two grades, winter and summer weight. They are a great protection, especially for delicate children. Keep the baby's feet warm, but avoid wrapping it in shawls until it is covered with perspiration. The room should be kept the proper temperature and wraps will not be needed.

How to Dress the Baby.—The child lies on the nurse's lap. The flannel band is first applied. This should go once and a half around the infant's body. Be firm but not tighter than will permit the introduction of three fingers. It is pinned on the inner left side three times, at the top, center and bottom, or outer edge. In pinning it thus, the pins are neither direct on the left side or abdomen, so the child will not lie on it and hurt it. A condition which if it exists is often responsible for a cross baby. Then the little shirt is put on. This should have long sleeves and open all the way down the front, and it should be pinned to the diaper in front and in the back, to keep the little shirt from ridding up and the napkin from slipping down; then the little flannel skirt, petticoat and dress are put on in order. Always put an infant's clothes on over its feet and not over its head, and the infant should lie in the lap of the nurse. It is very awkward to see a nurse trying to dress a baby holding it in a sitting position, putting its clothes on over its head. Don't do it. And to avoid lifting it so often, fit the skirts and dress in each other and put them on altogether instead of separately.

Sleep.—A new-born baby should sleep eight-tenths of the time the first six months, two-thirds of the time up to the fourth year, and take an afternoon nap up to the sixth year. The baby should not sleep

with the mother or nurse, but in a bed by itself.

A Bed for an Infant—A bed for an infant: The mattress should be firm but soft, the pillow, if any, thin and the covers light but warm. Baby should be laid on its right side for the first eight or ten days after birth. This is to aid the foramen ovale in closing. After this period it should not be allowed to lie too long in one position, but turned from side to side. This rests the little one and makes it comfortable. Often when a baby cries at night simply turning it on the other side is so soothing the child will go to sleep. A healthy baby should sleep from ten p. m. to five a. m.

How to Put the Baby to Sleep.—The mother and nurse should remember it is a matter of habit and they can train the baby to go to sleep by itself as well as rocking, walking, trotting and singing. The baby should have a warm sponge bath and made comfortable. The bath is given more for its soothing effect than for its cleansing purposes. The process is simple. Just a basin of warm water, soft sponge and a soft old towel. Remove all the clothes except the band and napkin. Then with the soft sponge, used for the face, wrung out of warm water, bathe face, head, neck, chest, and back, drying each part as sponged. Then a fresh little shirt is put on. The little legs and buttocks are then washed and a fresh napkin is put on and last the little gown. Baby should now be fed and laid in its little cradle while awake. If a bottle-fed baby, first put him to bed, then give him the bottle and remain near the bed and see that he does not fall asleep until all the food is taken. The room should then be darkened and baby taught to go to sleep of its own accord. Don't teach a baby

to sleep with a light, it is injurious to the baby's eyes and a bad habit. If baby cries and you are certain there are no pins sticking him, no wrinkles pressing in the tender skin, the feet are warm, baby is clean and dry, then let him have the comforts of a good cry, it will not hurt him, but assist in the healthy development of the lungs. Disturbed sleep is caused first by indigestion, from over feeding or feeding too often, secondly, excitement, caused by being played with too much before bed time. Hunger is also a cause of disturbed sleep. It is, also an early sign of illness. Too much sleep is rare. Never give anything to induce sleep.

Exercise.—All animals require a certain amount of exercise. Babies as well as older children. Baby takes its exercise by screaming, crying and kicking. The clothing should be loose so as not to interfere with its movements. It is best to provide a certain time each day. The room should be warm, all clothing except the shirt, band, napkin and socks should be removed. Place a mattress or comforter on the floor and allow baby fifteen minutes to exercise in. This helps much to develop its muscles. If the clothing is short, baby can take its exercise without removing it, and when quite young on the bed. But the floor is best after baby is able to creep.

The Language of the Baby.—Study the infant's language, its crying, and we can tell a good deal from the cry of an infant. All babies cry, and from fifteen to twenty minutes a day is healthy. It is necessary to keep the lungs expanded. There are six different cries of baby we must become familiar with. They are the cry of pain, hunger, illness, temper, habit and the normal cry.

The Cry of Pain.—The cry of pain is described as strong and sharp, with usually, contraction of the features.

The Cry of Hunger.—The cry of hunger is continuous, fretful, rarely strong. It is not a difficult matter to determine baby is hungry. Baby searches for its food.

Cry of Illness.—The cry of illness is more often characterized by fretfulness and worrying than real crying, although easily provoked into real crying.

The Cry of Temper.—The cry of temper is loud and strong. Characterized by kicking and stiffening of the body and sometimes becomes violent. Rarely baby exhibits the cry of temper before he is six months old.

The Cry of Habit.—The cry of habit or indulgence, the child ceases crying when it gets what it is crying for, as to be taken up, rocked, trotted, etc.

The Normal Cry.—The normal cry is loud and strong, the child gets red in the face, in fact screams.

Too long or frequent crying is abnormal; it is rarely strong, more of a moaning murmur, and at times faint. When baby cries at night see that it is comfortable, that the clothes are loose and feet warm and that the napkin is clean and dry. If it is alright don't take it up, but let it have its cry out. Some mothers will object to this, but unless she is a nervous woman and it excites her, be firm and she will thank you many times for your training. If it has colic, you will notice a drawing up of the limbs, and the feet are usually cold.

How to Lift and Carry the Baby.—Don't grasp the baby under the arms. Catch the baby's clothes below the feet and slip the left hand under the shoulders. This disturbs the baby much less; the entire spine is supported and there is no pressure; the hand is used simply for surpport. Never hold the baby in a sitting position on the arm. This is injurous to the spine; may cause curvature of the spine. Baby should be held either lying on the arm or in the upright position held against the chest, and the arm supporting baby's back.

Fig. 50—The proper manner of carrying a baby.

Temperature of Baby.—The normal temperature varies. Usually ninety-eight to ninety-nine degrees Fahrenheit. Generally ninety-nine degrees. The temperature is taken in the groin and rectum. If taken in the groin the thermometer should be left in five minutes, and one minute if taken in the rectum. The rectum is the most satisfactory place to take it. The temperature is a very good guide as to the severity of the illness in babies and children. But more depends on the continuation of the temperature than its height. A hundred and two degrees is mild, a hundred and four degrees is severe. A hundred and two degrees of temperature may be found for trivial reasons. In an infant for example, lack of water, especially if the weather is warm. Constipation will also give the baby a temperature. Baby's temperature should be taken every day for the first ten days after birth, and whenever the baby is fretful and cross.

Pulse and Respiration.—The pulse varies from one hundred and fifteen to one hundred and thirty beats in infants, and the respiration normally ranges from thirty to thirty-six per minute. Baby's pulse is best taken in the temple.

Nervous Babies.—Why are infants sometimes nervous? Because of the delicate structure of the brain. It develops as much the first year of life as all the years of after life, and for these reasons the baby should be kept quiet, have quiet surroundings, should receive few visitors, and should not be played with until after the third month, and it is better to wait until the infant is six months old, and then only in the morning, never at bedtime or after feeding.

Kissing the Baby.—The baby should not be kissed. There are many valuable reasons for this. The principal reason is the contraction of contagious diseases. It is, also, annoying to the child. If you must kiss the baby, let it be upon the head, never upon the hands or lips. The hands find their way to the mouth so frequently that it is safest to kiss it only on its little head.

The Bowels of the Baby.—The infant's bowels should move shortly after birth, twenty-four to forty-eight hours. If they do not move examine the anus and see if it is open. If not, the condition is serious, and the nurse should report the condition to the physician at once. Often it is necessary to perform an operation. In these cases, like obstruction of the bowels in older patients, the infant vomits its food, the bowels, of course, do not move, and if this condition is neglected its bowels may be emptied in like manner. But usually if this condition exists it is

discovered in a few hours, as the nurse should carefully overlook every child before washing it immediately after birth, and if there is anything abnormal tell the physician immediately. The meconium should be thoroughly evacuated; if not give the baby a teaspoonful of pure olive oil. This acts on the baby's bowels and does not gripe them. Note the number and character of the stools. It aids much in regard to the condition of the baby's health.

Character of the Stools the First Few Days.—For the first few days baby passes a thick, dark green, tarry material, called meconium. When the infant is three or four days old the movements are brownish in color; gradually this color disappears and they become yellow in color.

Breast Fed Children.—The normal color and character of the stools in breast fed children; they are light yellow in color, soft and smooth, containing no lumps; the consistance of paste or very thick cream and usually two movements a day.

Artificially Fed Babies.—When the baby is fed upon cow's milk, the stools are brighter in color, cohesive in character and often contain lumps and curds. If curds appear in the stools, a change should be made in the formula. Sometimes by using a larger proportion of cream and a smaller proportion of milk will adjust this matter.

Dark Stool.—The stools may become dark, brown or black, from bismuth or iron, and again from the presence of blood, which is a serious symptom. Frothy green, undigested stools; stools containing mucus, curds or blood streaked should be reported to the phy-

sician at once, and the food diluted or omitted, and albumen or barely water given.

Regularity of Habit.—It is an easy habit for baby to form to evacuate the bowels daily at a certain time. With some trouble on the part of the nurse or mother, this can be accomplished. The principal rule to follow is regularity. A certain hour morning and evening should be selected, usually after its eight o'clock feeding in the morning, and the four o'clock feeding in the afternoon. A small vessel the size of a quart cup is held between the nurse's knees; upon this the infant is placed, and the child is held firmly against the chest of the nurse. At first we may have to irritate the bowels by giving a soap suppository, which may be made from a piece of soap one inch long by trimming it into a tapering extender. But the habit is soon formed, and after a few weeks the position is all that is necessary. Evacuation takes place as soon as the baby is placed on the vessel. I have had babies of nine weeks who had formed the habit and become so regular by training they would wait until the time and never soiled their napkins. It is surprising how soon they learn and how regular they become by proper training. If the bowels are stubborn, gentle massage of the abdomen will often give good results. But do not let the baby go twenty-four hours without a bowel movement; rather give a gluten suppository or a warm saline enema.

The Kidneys of the Baby.—The kidneys are fully developed and the baby usually passes urine shortly after birth, but if the funnction should be delayed, warm fermentation placed over the region of the kidneys and bladder may be all the treatment that is necessary. But this condition must be watched and if this

treatment should fail the condition should be reported to the physician, and the parts inspected for obstruction. Note, also, if there is a reddish deposit of uric acid on the napkin and if so, give the baby freely of water to drink; this condition shows the urine is too concentrated.

Airing.—The child, if strong and healthy, should be taken out for its first airing when two weeks old in summer, and one month of age in winter. The child should be taken out daily for an airing when the weather permits. In winter be careful to see that it is warmly clothed, and when it is very cold a warm water bag may be placed at its little feet in the carriage to make it comfortable and keep its little feet warm; be careful and not have it too hot, as it would burn its tender, delicate skin. It should not be taken out in a high wind or when the ground is covered with melting snow. But fresh, pure air is as necessary for its growth and development as proper food.

CHAPTER XIV.

FOOD.

A whole book might be written on this subject, but I shall endeavor to give only a few of the principal points of interest. From birth until six months old, the diet consists of milk, either mother's or modified cow's milk. The best food for an infant, under normal conditions, is mother's milk, which is composed of thirteen parts of solids and eighty-seven parts of water. By normal conditions, we mean that the mother is in perfect health. A woman suffering from an infectious disease, such as tuberculosis, syphilis or puerperal sepis, should never nurse her child because of the danger of infection for the child, and it is too great a drain on the mother's strength and vitality. That the milk is perfect in quality, and sufficient in quantity. Should a mother be unable to nurse her child, a wet nurse should be recommended. Mother's milk is the food nature has provided for the child, and the mother should always nurse her child if possible, as man can never exactly reproduce the work of nature. If it is impossible for the mother to nurse her child or to procure the services of a wet nurse, or if the aversion of the patient to wet nurses as a class, and this is the rule rather than the exception, cannot be over-come, then we must resort to artificial food, and this is of the greatest importance. More infants

die from improper food and the manner in which they are fed, then from any other cause. Two-thirds of all the children born die before reaching the age of three years, and the greater part of sickness and deaths among children are due to improper food and the manner in which they are fed than all causes conbined. Think of the little lives that might be saved if parents only gave this subject a little more thought and consideration! When baby must be fed artificially, cow's milk is best. The milk of the ass is more like mother's milk than cow's, but it is hard to get. All milk contains the same constituents, no matter from what animal it is obtained; the difference lies in the proportions of these ingredients. Here is a table giving the constitution of each:

Mother's Milk.

Fats,	Sugar,	Proteids,	Salts,	Water,	Reaction
4.0	7.0	1.5	2.0	87	Alkaline

Cow's Milk.

Fats,	Sugar,	Proteids,	Salts,	Water,	Reaction
3.5	4.5	4.0	7.0	87	Acid

By comparison we see that the main difference between cows milk and mother's milk is that mother's milk contains more sugar and less proteids. So we see that cow's millk in its natural state is inadequate to replace mother's milk, and is unfit for food for an infant. We must change the constituents of the cow's milk to resemble mother's milk and to make it digestiable for the infant. This process is called "modifying." The protieds of cow's milk differ from human milk in quantity and quality. This is the element that is the tissue builder and strength producer of milk. It is more than an infant can digest, and if given in its

natural state will form irritating, hard, tough curds in the baby's stomach. We see then that cow's milk cannot be fed to an infant without changing or modifying it. Although it contains the same element as mother's milk it is not in the same proportions. But it is easy and simple to change or modify it to resemble mother's milk. This is done by adding cream, sugar and water. Sometimes whey is used as a diluent instead of water, and lime water overcomes the acidity of cow's milk, making the reaction alkaline. The first step is to obtain the primary formula, the ten per cent milk. This is milk containing ten per cent fat; which is obtained by taking equal parts of plain milk and ordinary cream, or the upper third of a quart bottle of milk after standing at least four hours. It is more convenient to use the plain milk and ordinary cream in making the formulas.

FORMULA I.

Third to the fourteenth day.

Third to the fifth day.
Number of ounces.
Ten.
One ounce at a feeding.

Milk	Oz.	½
Cream	Oz.	½
Lime water	Oz.	½
Milk sugar	Oz.	½
Boiled water	Oz.	8½

Diluted nine times.

Fifth to the seventh day,
Number of ounces.
Twenty-one.
Two ounces at a feeding.

Milk	Oz.	1½
Cream	Oz.	1½
Lime water	Oz.	1
Milk sugar	Oz.	1
Boiled water	Oz.	17

Diluted six times.

Seventh to the tenth day.
Number of ounces.
Twenty.
Two ounces at a feeding.

Milk	Oz.	2
Cream	Oz.	2
Lime water	Oz.	1
Milk sugar	Oz.	1¼
Boiled water	Oz.	15

Diluted four times

Tenth to the fourteenth day.
Number of ounces.
Twenty.
Two ounces at a feeding.

Milk	Oz.	2
Cream	Oz.	2
Lime water	Oz.	1
Milk sugar	Oz.	1½
Boiled water	Oz.	15

Diluted four times.

The above formulas are to be divided into ten feedings each, in twenty-four hours. Every two hours by day and two feedings at night, if the baby is awake. Never wake a child at night for food. If fed at night, the hours are usually one and four o'clock. If top milk is used, use the ten per cent milk, and take as much as milk and cream combined.

FORMULA II.

Second to the sixth week.

Using ten per cent milk as primary formula.

Third week Number of ounces. Twenty. Two ounces at a feeding.			Fourth week. Number of ounces. Twenty-five. Two and a half ounces at a feeding.		
Milk	Oz.	2	Milk	Oz.	2½
Cream	Oz.	2	Cream	Oz.	2½
Lime water	Oz.	1	Lime water	Oz.	1½
Milk sugar	Oz.	1½	Milk sugar	Oz.	1½
Boiled water	Oz.	15	Boiled water	Oz.	18½
Diluted four times.			Diluted four times.		

Fifth week. Number of ounces. Thirty. Three ounces at a feeding.			Sixth week. Number of ounces. Thirty. Three ounces at a feeding.		
Milk	Oz.	3	Milk	Oz.	3
Cream	Oz.	3	Cream	Oz.	3
Lime water	Oz.	1½	Lime water	Oz.	1½
Milk sugar	Oz.	2	Milk sugar	Oz.	2
Boiled water	Oz.	22½	Boiled water	Oz.	22½
Diluted four times.			Diluted four times.		

The above formulas are for ten feedings each, in twenty-four hours. Every two hours by day and four hours at night, if baby is awake, usually at one and four o'clock. If the ten per cent top milk is used, use as much as milk and cream combined.

FORMULA III.

Sixth to the twelfth week.

Using ten per cent milk as primary formula

Seventh week.			Eighth week.		
Number of ounces.			Number of ounces.		
Twenty-four.			Twenty-eight.		
Three ounces at a feeding.			Three and a half ounces at a feeding.		
Milk	Oz.	3	Milk	Oz.	3½
Cream	Oz.	3	Cream	Oz.	3½
Lime water	Oz.	1½	Lime water	Oz.	1½
Milk sugar	Oz.	1½	Milk sugar	Oz.	1½
Boiled water	Oz.	16½	Boiled water	Oz.	19½
Diluted three times.			Diluted three times.		

Ninth and tenth weeks.			Eleventh and Twelfth weeks.		
Number of ounces			Number of ounces.		
Thirty-two.			Thirty-six.		
Four ounces at a feeding.			Four and a half ounces at a feeding.		
Milk	Oz.	4	Milk	Oz.	4½
Cream	Oz.	4	Cream	Oz.	4½
Lime water	Oz.	1½	Lime water	Oz.	2
Milk sugar	Oz.	2	Milk sugar	Oz.	2
Boiled water	Oz.	22½	Boiled water	Oz.	25
Diluted three times.			Diluted three times.		

The above formulas are to be divided into eight feedings each, in twenty-four hours, every three hours during the day, and one feeding at night if the baby is awake. Usually about two o'clock.

These formulas may be continued until the baby is four months old. It is often better to increase the

quantity first, and then if baby is not satisfied, the quality. But I have found babies thrive much better on a weak formula; the gain is not so rapid, but they do not seem to have the stomach complications that rich, over-fed babies are victims of. The next series of formulae for the middle months, a change is made in the milk. At this period the seven per cent milk is used as a dilutent instead of the ten per cent milk. The seven per cent milk is obtained as top milk, by taking the upper half of a quart bottle, after it has stood at least four hours, or by using one-fourth ordinary cream, containing sixteen per cent fat, and three-fourths plain milk. At this age, also, the number of feedings are seven in the twenty-four hours, every three hours by day and none at night. Usually at the age of six months the infant needs a more mixed diet. Farnaceous food in some form, usually as strained gruel, may be added to its mid-day feeding, and strained broths may be given to some children at this age. But, as we are dealing only with the new born infant of four days to three months (this includes the length of time the nurse is with the little stranger)' we will not go into details of foods required later. A nurse should be very careful, and never prescribe any form of food. This is the physician's duty, and he should prescribe the food as he does the medicine, giving the nurse a written prescription for its preparation. The above or foregoing tables are only used in an emergency, or in the absence of the physician. The same proportions are not suited for every case, and must be often modified, by experience, to suit the individual child. According to the health of the child, these conditions should be changed to meet its demands. As infants have no stomach at birth, only

an enlargement of the alimentary canal, which forms a kind of a pouch, holding about one ounce, two tablespoons, how important, then, that the specified amount be given, and at regular intervals. How important for the nurse, that she understands this all-important duty, and is equal to her responsibilities. That she knows what is best for each child in order that it may thrive and grow. Cow's milk, modified according to the needs of each individual child, is the most perfect food for an infant deprived of mother's milk.

How to Feed the Baby.—Never feed a baby lying in bed, except at night. The infant should be taken up and held in the same position as a mother holds her

Fig. 51—The proper manner of holding a baby when giving it the bottle.

child when nursing it. The infant should nurse continuously. Never allow it to go to sleep and then wake up and continue to nurse. Never allow it to nurse more than fifteen or twenty minutes. If it seems sleepy, try and keep it awake by gently shaking or moving it so as to rouse it until it empties its bottle. If this does not succeed, try washing its face with cold

water. Should this fail, take its bottle away and let it wait until next feeding. Do not feed it between feedings. Give it water if fretful. All water given an infant should be boiled, and given at a temperature of one hundred F. Always use a dairy thermometer in testing the heat of the milk, and it should be given to a child at one hundred degrees F. The bottle should have a piece of flannel wrapped around it so it will keep warm until baby takes it all. A child that is fed from a bottle should be nursed as regularly as an infant that is fed from the breast. A young baby should be fed every two hours during the day and twice during the night, if awake. Or ten feedings during the twenty-four hours. A baby should be awakened during the day for its food at the proper time, and it will soon learn to awake of its own accord. Its health depends upon regularity. Never wake a baby at night; it may sleep the whole night through, if it will, without feeding. At five weeks it is usually fed every two and a half hours during the day and once at night; if awake, until three months old, at which time it is fed every three hours during the day and no feeding at night. Bottle-fed babies are usually pale, but thrive fairly well. The success depends on scrupulous cleanliness in regard to the bottles, nipples and the preparation of the food and regularity in feeding. As soon as baby finishes taking its bottle, it should be laid gently in its little bed.

HOW TO PREPARE THE FOOD.

Material and Appliances Used in its Preparation.

Material Needed.—The material needed is milk, cream (or top milk), lime water, milk sugar and boiled water.

Appliances Needed.—A Nelson's siphon. This may be obtained at any surgical supply house, or by tak-

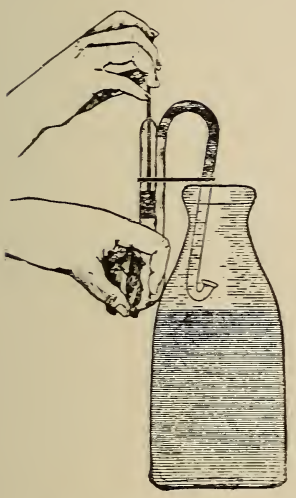

Fig. 52—Nelson's Siphon.

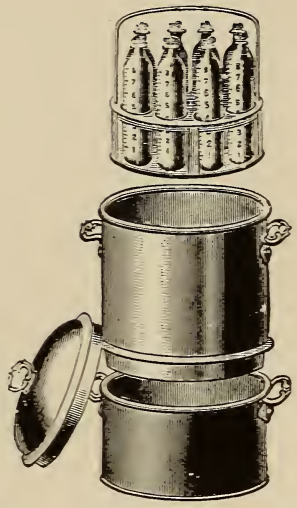

Fig. 53—Langerfeld's sterilizer.

ing a long, straight glass tube, heating it and then bending it the shape desired. It should be V shape with one arm twice as long as the other. This is used

Fig. 54—Granite pitcher.

Fig. 55. Glass funnel.

Fig. 56—Graduate measuring glass, 8 oz., used in preparation of baby's food.

Fig. 57—Brush with wire handle for cleaning the bottles.

to siphon off the top milk, if top milk is used. Feeding bottles, sterile cotton to cork them with, rubber

nipples, a vessel for mixing, usually a large granite pitcher, this must be used for nothing else but baby's milk, a glass funnel, and an eight ounce graduate measuring glass, a stiff bottle brush with a wired handle, a granite cup to boil the nipples in, to be used for this purpose and no other, and a deep granite cup for warming the bottles of

Fig. 58—Food warmer.

milk. A nice little alcohol warmer can now be had at most drug stores costing less than a dollar. These articles with a dairy thermometer complete our appliances.

To prepare the bottles.—Prepare the number required for the number of feedings in the twenty-four hours by boiling twenty minutes in a solution of bicarbonate of soda, then rinse them with plain boiled water and allow them to remain in same until needed.

It is best and safest to allow for accidents by preparing two extra feedings. After each feeding the bottle should be rinsed with cold water and fill with same until they are prepared for the reception of the milk.

The Preparation of the Formula.—The nurse prepares the formula given her by the attending physician. The physician should give a written prescription for the preparation of the infant's food, as he does for the prescribing of medicine, and the nurse should carefully and conscientiously fill same. Prepare the entire twenty-four hours' feeding at a time. The cream, or top milk, is first siphoned off. To accomplish this, the Nelson's siphon is used, or the glass V-shape tube. If the tube is used, a piece of rubber tubing is fastened to the long arm and the tube is then filled with water and the rubber tube held compressed with the fingers. The short arm is placed in the bottle and the top milk will flow in the vessel held beneath. With the siphon is full directions for use. The sugar is dissolved in the water, the cream, milk, or top milk and lime water is added. Use the pitcher for mixing it in and the graduate glass for measuring the ingredients. After mixing it well, put it in the sterile bottles and set them in a pan of water and place the pan on the stove. The water should reach two-thirds the height of the bottles. Let it remain on the fire until the milk in the bottles reaches 167 degrees F. Always test the heat with the dairy thermometer. The bottles are then corked with sterile cotton, removed from the fire and as soon as cooled place them in the refrigerator or ice box, and it should be kept at a temperature of forty-two degrees. Open only when needed. When a bottle is once opened, if baby does

not take it, or only a part, it must not be given the baby again, but thrown away.

Pasteurizing Milk.—Pasteurizing milk means heating it to one hundred and fifty to one hundred and seventy degrees F.

Sterilizing milk.—Sterilizing milk means heating it to two hundred and twelve degrees.

Both these processes are to destroy bacteria. Some authorities tell us that, unless there is good reason for so doing it, it is best not to either pasteurize or sterilize the milk, as heating interferes with the digestibility of the milk. Of course, if the nurse has reasons to believe the milk is not pure or clean, then pasteurize it. We seldom sterilize milk, unless we want to preserve it, as for example, an ocean voyage, so as to keep it sweet. Pasteurizing milk renders it harder for an infant to digest.

To Heat the Milk.—Place the bottle in cold water. Do not put it directly in hot water, but in cold water. If put directly in hot water, when taking it from the ice box, it is apt to crack the bottle. After the chill is off, the bottle is then placed in warm water. When the water is cool refill with warmer water, then hot water. The water should reach the neck of the bottle. Allow it to remain in hot water until the milk in the bottle reaches a temperature of 100 degrees F. Shake it several times so that the heat will be uniform. Thus the milk is heated gradually and a bottle is seldom cracked or lost. Always prepare two extra feedings in event of a bottle may be spilt or broken.

To Tell Good Milk.—Milk chosen for an infant's food is usually selected from a mixed herd of several healthy cows, fed on a clean pasture. A mixed herd is

preferred, when possible, to a single cow, because the milk is more uniform in quality and not so apt to spread diseases as would be the case in a single cow. If the milk is good, it should be acid in reaction; have a dense white color and if tipped to the side of a glass, you will see a distinct film, and when placed on the ice cream rises to the surface.

The Bottles.—The bottles should be the rounded graduate ones. Rather wide necks are to be preferred, as they can be more easily and thoroughly cleaned. After each feeding rinse well with cold water so the little milk that adheres to the side will not sour and remain adherent. Fill them with clear water, in which a little bicarbonate of soda is added; allow them to remain so. Before using wash them well with a long handle stiff brush that is made for this purpose, and boil twenty minutes in a bicarbonate of soda solution. A teaspoonful to a pint of water. The "Hygeine" nursing bottle is best, as we are sure of being able to clean this perfectly.

Fig. 59.
A graduate nursing bottle.

The Nipples.—The nipples should be the best black rubber nipples that fit over the bottles. Never use a nipple with a tube attached to it. It is impossible to clean these as they should be, and they are dangerous. Neither use one that has a large hole in

it. The hole should be of such a size that when the bottle is inverted the milk drops easily, but does not run in a stream, as baby would take its food too rapidly, which would cause stomach disturbance. Immediately after nursing, the nipple should be removed from the bottle and thoroughly washed, at first outside, then inverted and the inside washed well also. The nipples should then be placed in a cup or small vessel, containing a saline solution; this prevents them becoming soft. They are kept here until boiled. A nipple must never be used a second time without boiling. After boiling the nipples should be kept in a three per cent boric acid solution until used.

Fig. 60—Rubber nipple.

Other Foods.—There are numerous baby foods on the market. Some babies seem to thrive on them and do fairly well. In some instances they are added to the milk formula. Condensed milk agrees with most young babies, but is apt to be constipating. If such is the case, a little olive oil, given the baby or a little cream added to one or two of its feedings, will usually adjust this condition. Horlick's malted milk is an excellent food for the baby.

The Wet Nurse.—If possible, when the mother can not nurse her child, a wet nurse should be procured. The nurse should be between twenty and thirty-five years of age, and a thorough medical examination as to her health and constitution should be made by the physician in charge of the case before accepting such a person to nurse the child, and her own child should be as near the age of her adopted charge as possible.

Weaning the Baby.—This is hardly necessary to mention here, as I have intended this book simply as a guide or assistant to the young and inexperienced nurse, and to include only from the period of conception to the infant of three months. It is inserted here for the sake of completion. The weaning of the baby is sometimes a difficult task. The infant will often refuse its food until nursed. Under usual normal conditions, weaning should begin at nine months and be completed at one year. In summer it may, sometimes, be advisable to nurse the child a little longer, rather than wean it if the weather is very warm, especially if teething. To overcome the difficulty it should be done gradually; begin by substituting one feeding a day for one nursing. Then two feedings a day for two nursings. It is better to accustom the infant to other foods by the means of mixed feedings, then to take the mother's milk away suddenly. Thus the child is taken from the breast gradually and the dangers of digestive disturbance is lessened.

Water for the Baby.—Too much can not be said in regard to this subject, as this is one necessity that is often neglected and the baby suffers for want of it. The child becomes restless and will not sleep, is very cross and fretful. Babies often have fever and are cross and fretful for lack of water. A new-born baby should have one ounce of water each day. The water should always be boiled and given warm. As baby grows older, the quantity should be increased. It should be given a teaspoonful at different intervals during the day until the allowed amount is taken. Best given between feedings.

Weight of Baby.—The average weight at birth is seven and a half pounds. Boys usually weigh a half

a pound more than girls. The infant loses the first three days after birth, but after the milk appears on the third day, the baby begins to grow and gain, so at the end of a week it should weigh what it did at birth. It should gain from one-half to one ounce daily for the first three months; after that the gain is not so great, but it should average from four to six ounces a week the first six months, and from one to three ounces a week from six to twelve months. A child should be weighed once a week for the first six months, and always on the same day of the week, and once a month on the same date of the month from six months to one year old. The weight of the child is very important. It is an accurate guide as to the health of the child. It is well to remember that seemingly simple things will cause the weight to vary, such as weighing the baby immediately after feeding; the food it has consumed would increase its weight several ounces. In weighing the baby with the clothes on, the varying weight of these at different times will cause discrepancies, then again the movement of the bowels just before weighing will cause an apparent loss. So that a mother or nurse must consider these things before considering there is an actual loss in weight.

Keep the Baby Clean.—The infant should be kept spotlessly clean. Soiled and wet napkins should be removed immediately. The buttocks should always be washed and carefully dryed after each movement. Great care should be exercised in keeping the bib and dress, clean. Remove same immediately should the infant regurgitate its food. Nothing is more disgusting than a sour-smelling baby.

CHAPTER XV.

ILLS OF BABY.

Ailments that Often Affect Baby During the First Three Months of Life.

In this chapter on the "Ills of Baby," I shall endeavor to narrate, in order, the dangers and ailments that baby is apt to encounter during its first three months of life. I do not mean to describe all the dangers that may befall baby, but the ones of ordinary occurrence. The first one on the list is one that may occur even before the birth of the child, and is:

Asphyxia Neonatorum.—This condition may occur either before or immediately after delivery. It is caused by the too early separation of the placenta and by pressure on the umbilicus cord during delivery. The child when born is either blue and stiff, or very pale and limp. The heart beats, if heard at all, are very faint. Unless respiration can be induced the child will die.

Treatment.—The treatment consists in using all the means we have to encourage and stimulate the respiratory organs, and the using of several methods to produce artificial respiration. The treatment should be persevering but gentle. The author knows of one case where the physician worked with a baby one

hour before it responded to treatment. It lived and is a fine child. So we should continue gentle treatment, even if it seems useless and the child dead.

Simple Treatment.—Perhaps the simplest treatment and one that is very effectual is to before cutting the umbilicus cord, hold the infant up by the feet, head downward, and spank it. This often is all that is necessary.

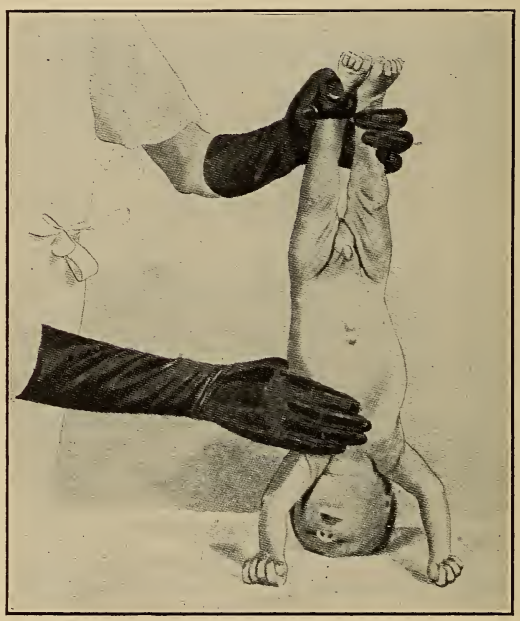

Fig. 61—Resuscitation of an asphyxiated baby.

Shock.—In mild cases of asphyxia, where the simple treatment does not have the desired results, the most common method used is that which will produce a shock. Sometimes the simple sprinkling of cold water on the chest or back is sufficient to cause

the infant to catch its breath and cry. Some physicians place the baby in a hot bath, 106 degrees F.,

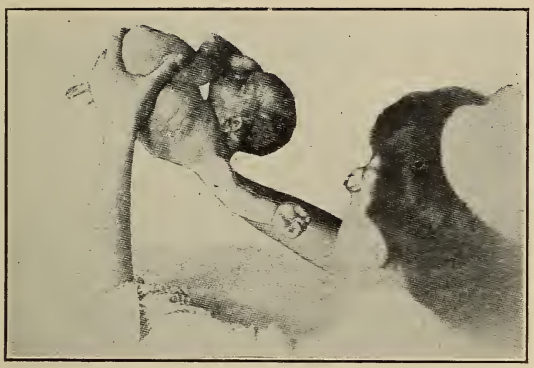

Fig. 62—Bird's method of resuscitating of asphyxiated infant. First motion. Expiration.

while others use hot and cold water alternately. Shock, in mild cases of asphyxia, will be sufficient to

Fig. 63—Bird's method of resuscitating of asphyxiated infant. Second motion. Inspiration.

bring about normal breathing. The little one must then be wrapped up warm; a hot water bottle placed

in its little bed to preserve the heat of the body, and the child watched carefully for several hours.

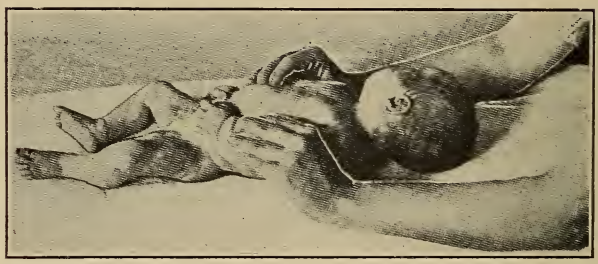

Fig. 64—Sylvester's method of performing artificial respiration. First motion. Expiration.

Artificial Respiration.—Of this treatment there are two methods. One known as, "Byrd's," which consists of alternately folding and infolding the child upon itself like a book, and the "Sylvester's" method as used in resuscitating a drowned person, which is produced by alternately raising the arms high above the

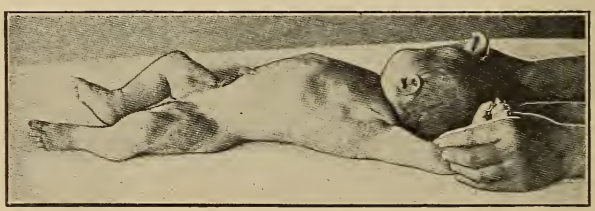

Fig. 65—Sylvester's method of performing artificial respiration. Second motion. Inspiration.

head and pressing them down again close to the sides. To be repeated twenty times a minute.

Another Method.—Another method, which is often effectual, is to place one hand firmly on the child's stomach, and hold the nostrils with the other. A piece of gauze or very thin cloth is placed over the

child's mouth, and air is forced into the child's lungs by blowing gently through the cloth. Repeat about twenty times a minute. And in trying to inflate the lungs, blow very softly and slowly.

Blue Babies.—Of these there are two classes; the first one is caused by failure of the wall between the two sides of the heart not closing properly. The blood is not properly oxygenated in the lungs; the arterial and venous blood mixes, the skin of the baby is blue, and we have that condition known as "a blue baby." The baby may live, but usually the child is not strong and dies young.

The second condition in new-born babies which produces like effect is known as atelectasis. The lungs do not unfold and expand as they should. The children are blue and cold. It is usually fatal in the course of a day or two. It is more common in premature babies and offsprings of delicate parentage. The babies often thrive better if kept in an incubator.

An Improvised Incubator.—When it is necessary that baby should be placed in an incubator for a short time, if it is impossible to obtain one, a clothes basket may be used for this purpose; a soft pillow is placed in the basket for baby's bed, and the infant is kept warn by hot water bottles. The following incubator I improvised in an emergency and found it very satisfactory.

My Incubator.—Take a large cracker box, or any clean box the right size will do. The box should be large and deep enough, according to baby's size and length, and size also to allow room enough for its little bed, and the hot water bottles that are to heat the incubator to the proper temperature. The box should have holes bored in it with a large gimlet, or cut

small holes with a pen knife all around the sides so there will be proper ventilation for baby. The incubator should be heated with hot water bottles, or what is better still, Japanese stoves. The stoves, if you can get them and enough of them, keep a more even temperature, do not cool off like the hot water bottles. A nail is driven in one end of the box and on it is hung a weather thermometer. The temperature should be between 92 to 94 degrees F. The temperature should not be allowed to go below 92 degrees F. or above 94 degrees F. Then baby's bed. This should be raised about six or seven inches from the floor of the box; it should be made of laths or very thin plank with spaces between them. This is to allow free passage of heat. On the little bed frame is placed a soft, thin pillow, or several layers of cotton; over this a clean soft cloth, and baby's bed is complete. Baby should have on a little shirt and napkin, and only very light covers; a very thin blanket. If baby is kept too warm it will have a rash. The top of the incubator box is closed by a large pane of common window glass. The glass answers a two-fold purpose, keeping the heat in, and the nurse can see the baby and thermometer without removing same. My incubator is now complete. Be sure baby has plenty of ventilation; that the holes in the side of the box are large enough and sufficient in number.

Hemorrhages.—Many children are rendered quite weak and not a few die of hemorrhage. In the newborn infant it is more often hemorrhage of the umbilicus that is of special interest to the nurse. She should watch the child for an hour of two after birth to be sure that no hemorrhage occurs. If so it should be treated as has already been described.

Delayed Urination.—The baby's kidneys should act shortly after birth. If they do not, inspect the parts to be sure they are normal. If so, do not be alarmed if urination be delayed. Give the baby all the warm water it will take, or two drops of sweet spirits of nitre every hour until the kidneys act freely. In little boy babies the orifice of the prepuce is sometimes so small, or the foreskin is so tight that it forms a stricture or compress so that the passing of urine is accomplished with pain and difficulty. This is a serious condition. The foreskin being so tight causes stricture of the uretha, retention of urine, fretfulness and nervousness and is responsible for many of the nervous conditions in later years. When this condition is present the operation known as circumcision is usually performed.

Circumcision.—This is the oldest surgical operation known. It has been performed for centuries. It

Fig. 66—Infant prepared for circumcision.

was formerly an exclusively a religious rite of the Jewish faith, performed on all male Hebrews eight days after birth; the ceremony being performed by the Jewish rabbi. While still a religious ceremony of the Jewish church, it is not exclusively a religious rite now, but is performed by physicians on all male children whenever physical conditions make it necessary. The only instruments necessary are a pair of artery forceps, a pair of scissors, suture, needle-holder, a little sterile cotton and gauze, a bichloride solution, and a narrow crinoline bandage. Boric acid powder or aristol. The little patient is placed on the table, the clothes are thrown back and a towel folded back over them, the napkin is removed and the field of operation is washed off with a bichloride solution in the strength of one to five thousandth. A sterile cloth with a hole cut in it large enough to allow the penis to pass through, and also large enough to hang down and cover the buttocks, so in case the baby's bowels move there is no danger of the operator soiling his hands, and a folded napkin is placed immediately under the buttocks as a protection. The foreskin is pushed forward and held with the artery forceps and the surgeon clips it off with the scissors. Often there is some hemorrhage. Regarding after-care the nurse must observe surgical cleanliness in regard to the after-care of the wound. It must be washed off after each urination by allowing some warm boric acid solution to flow over the penis. Dry the part with sterile cotton, powder it with boric acid powder or aristol. A large pad of dry sterilized cotton is placed over the parts to protect them and prevent the napkin rubbing and irritating them. It usually heals in three or four days. Some surgeons use suture, others prefer the narrow crinoline bandage.

The Bowels.—The bowels should move in twenty-four hours after birth. It is well on the morning of the second day to give the baby a teaspoonful of olive oil. Olive oil is preferable to castor oil, because it does not gripe the baby, and clears the intestinal tract of the meconium. The meconium should come away early; the mother's milk is often sufficient for this purpose, but if the collostrum is scant, the olive oil will be very effectual in ridding the infant's intestinal tract of this substance. Of course the nurse will discover when she takes the infant's temperature if there is an occlusion of the anus, and if so notify the physician immediately, as an operation must be performed. New-born infants seldom suffer from constipation, although when a few months old, bottle babies especially suffer sometimes from this complaint. Diarrhea is more frequent in a new-born baby, until after the milk has become regular and the collostrum is absent. Bottle babies suffer more from bowel and stomach complications than breast-fed children. The treatment is the physician's duty, to regulate the milk. In bottle-fed babies the milk should be diluted, and we can dilute the milk of breast-fed children by giving them a certain amount of water to drink before nursing and not allowing them to nurse full time.

Jaundice.—This is a yellowish discloration of the skin in new-born infants. It usually makes its appearance from the third to the ninth day. It is supposed to be due to inefficiency in the action of the liver, causing an accumulation of bile in the blood, or a congested liver. The bowels are usually affected. The bowels should be flushed daily with a saline enema, and the writer has found a one-twentieth of a

grain of calomel triturate dissolved in a teaspoonful of water and given to the infant (be sure the baby gets the medicine, as it is very heavy and settles on the bowl of the spoon), followed in an hour by a teaspoonful of olive oil is very effectual. Have never been disappointed in the results.

Infection of the eyes.—Ophthalmia neonatorum or infection of the eyes is an acute purulent infection of the mucus membrane of the eyes of the new-born infant. It is usually caused by the gonorrhea germ. While there are a few other germs that may cause this condition, this is the most common and frequent cause. The germ gains access to the eyes from the vagina while the infant is passing through, or is wiped into the eyes at the first attention given them after birth, or the infant may get its little hands up to its face and eyes while the nurse is giving her attention to the mother immediately after birth, if the nurse is not careful to see that its little hands are held down by wrapping the blanket around them and its little face exposed, and thus it infects itself. But in what ever way the germ gains entrance, it quickly sets up a violent inflammation of the conjunctiva.

Prevention.—The prevention of this terrible affection, which is the cause of one-third of all the blindness in the world, is the precaution we use at birth. The infant's eyes should be carefully washed, as has already been described, and the Crede's method insures additional safety where conditions are doubtful.

Symptoms.—This condition usually makes its apperance on the third day. The first symptom is the margin of the lids grow red; this is followed by a thin, watery fluid which is very irritating. After a few

hours the fluid becomes purulent and the lids become so swollen that the eyes are closed.

Treatment.—If only one eye is affected the other eye should be protected by placing a pad of cotton over the sound eye and over this a shield, and the baby should lie on the side of the affected eye. This prevents the possibility of the discharge running over the bridge of the nose, being absorbed by the cotton, and infecting the sound eye. Usually the first few hours ice compresses are kept constantly on the eyes. To accomplish this a piece of ice is placed in a basin, over this is poured a saturated solution of boric acid, and it is well to place a tablespoonful of boric acid crystals in the basin, so as the ice melts the solution will not became too much diluted. Pieces of absorbent cotton large enough to cover

Fig. 67—Arrangement for the application of ice compresses to the eyes.

the eye is cut and placed in the ice cold solution. The baby is then placed on a pillow, a hot water bag is placed at its little feet and the nurse sits in a comfortable place at the child's head and applies the compresses continuously. Do not allow them to remain on until they become warm. Often it is necessary to change them every thirty seconds. The cold application is to reduce the inflammation. Paper bags should be provided and into them should be deposited the compresses as used and all other waste dressings that come in contact with the baby's eyes. These must be burned. The lids must be kept free from all secretions. The discharge is very irritating, and there is great danger of the ulceration of the

Fig. 68—Arrangement for the irrigation of the eyes.

cornea and the loss of the eye. The best method for removing the pus from the eye is a gentle stream of boric acid solution. The nurse places the child on her lap, on a piece of rubber sheet or oil cloth. There should be a large piece of absorbent cotton placed immediately under the sides of the face of the baby. If only one eye is affected, the infant is placed on the affected side; its little arms must be bound down to its sides, so that infection may not be carried by the little hands, and it is much easier to treat them if baby is unable to use its hands. The writer has found a soft rubber ear syringe the best irrigator; it is safer, as children are prone to struggle and there is no danger as may be met with in using a hard-pointed irrigator. The solution is poured in a clean cup and the irrigator, holding about four ounces, can be filled in a few seconds. The child is held in a comfortable position on the nurse's lap, a piece of rubber sheeting or oil cloth is placed immediately under its head. A large pad of absorbent cotton is placed under the side to catch the water and discharge, the left hand steadies the child's head and with the left thumb and index finger the lids are separated. The irrigator is held in the right hand, which rests on the infant's head and steadies and holds it gently against the knee, while the nurse directs the gentle stream of the irrigator at the inner canthus of the eye and washes everything outward. By gentle pressure just above and below the margin of the lids, will cause

Fig. 69—Soft rubber ear syringe, excellent as syringe for the eyes if effected.

them to turn slightly outward, and the inner surface of the eye can be perfectly irrigated. It should be wiped dry with the little cotton balls that have already been described. If both eyes are infected, it is more convenient to place the baby on a table, treat one side, and then turn the baby on the other side and give it the same treatment. The eyes should be irrigated every two hours while there is any discharge; little cotton balls should always be made and ready for use, to wipe off all discharge between irrigations. Protorgal, one drop in each eye, if both eyes are affected, every four hours, is prescribed by most physicians in addition to the irrigation. If only one eye is affected the other must be inspected from time to time for evidence of infection.

Precaution to Prevent Infection.—During the treatment and care of such a case the nurse must use the greatest care to prevent others becoming infected as well as herself. All dressings and the cotton used on the infant's eyes must be deposited in paper bags, and burned. This the nurse must attend to herself. The pillow slips and little dress or gown and all that comes in immediate contact with the discharge from baby's eyes, should be placed, as soon as removed or soiled, in a one to one-thousandth bichloride solution or a one to twenty carbolic acid solution, and should remain in it at least twelve hours. If there are other children in the house they must not be allowed to go in the nursery. All articles used on and about the baby must be kept in the nursery and the nurse must take care of them herself. And the nurse must not neglect herself. Be careful that the discharge does not soil her dress. She should wear a large obstetrical gown when irrigating and treating the eyes, this to be

worn only during the treatment. Then she must be very careful of her hands. Wash them well, disinfect them thoroughly after each treatment and whenever they are soiled by the discharge. The best disinfectant is a one to five-thousandth bichloride solution, the hand to remain in it several minutes. Bichloride solution is hard on the hand and carbolic acid is preferable when the treatment must be kept up for some time. Sterilized rubber gloves are excellent, but are a little awkward. The nurse should avoid her own eyes and face as much as possible; there is always a possibility of contamination.

Difficulty in Nursing.—The causes of difficulty in nursing are several, but the two most common are first, ignorance on the part of the baby; it does not know how to take hold and suck, and secondly, neglecting to teach it how during the first two or three days of life and allowing the breast to become so ingorged that the infant can not take hold, and thirdly, trying to force a crying baby to take the nipple the first time. The nipple should be pulled out and the child taught to suck before the milk appears. Take the baby when partly awake, lay it in a comfortable position near the mother, flat on the bed on the same angle as the nipple, rub its little head so as to rouse it and in a short time baby will usually take hold. Sometimes it is necessary to put a little sweetened water on the nipple, or a little milk squeezed out of the breast in a spoon, and while baby is trying to nurse allow it to run on the nipple and into baby's mouth as it is nursing. This will encourage it to try. If difficulty is experienced and the breast or nipple are not at fault, examine the child's mouth and see if the conditions are normal. See if the tongue is tied or

the mouth sore, and if conditions are abnormal report same to the physician immediately. If conditions are normal a little perseverance is all that is necessary to overcome the difficulty.

Vomiting.—When vomiting occurs a few minutes after baby takes its food, bottle or nursing, it is either because it has taken more than the specified amount, the quantity is too large, or the food has been taken too rapidly. This is especially true in bottle-fed babies where the hole in the nipple is large. It is sometimes due to the binder being on too tight and presses on its stomach, and sometimes because there is too much fat, the milk is too rich. At the time of birth the stomach of a baby is simply the dilation of the gullet running from the throat to the stomach, and holds about one ounce. At the end of four weeks it has attained the capacity of two ounces and continues to grow and develop slowly and at twenty weeks or five months reaches the capacity of little over five ounces. To this condition is due the fact that babies can eject the contents of their stomachs very easily. A slight movement or pressure is all that is necessary to cause baby to throw off a surplus of milk. A baby vomits without effort and with comfort. This is a wise provision of nature to protect the child. For these reasons a baby should never be played with or moved about immediately after nursing. If vomiting takes place an hour after feeding it is a symptom of indigestion. In bottle-fed children the formula should be made weaker and in breast-fed babies the mother's diet should exclude all fats and she should eat principally cereals and starches. Should baby vomit anything but milk the physician should be notified.

Indigestion.—This is most common of all ills baby is heir to. More frequently found in artificially-fed babies than breast-fed children, yet both may suffer with this complaint unless there is regularity in feeding the child.

Symptoms.—The symptoms are vomiting, colic, restlessness. The stools are green, containing much mucus and large particles of undigested milk curds.

Treatment.—The treatment consists in the removing of the cause. The child's food should be diluted or if the case is severe, it is best to take the food away for a day or two and the infant fed on barley water or albumen water until the stomach has rested and vomiting ceased. With regularity in regard to amount and interval of time between the feedings this difficulty may be avoided.

Colic.—This is one of the symptoms of indigestion,

Fig. 70—Infant's syringe for rectal injection.

although it may rarely occur when the stomach and bowels seem to be in perfect condition.

Symptoms.—The symptoms of colic are a sharp cry with a drawing up of the feet. The little one will often awaken from sleep, utter a sharp cry, there is a rumbling of the bowels and gas is passed by rectum.

Treatment.—For colic the best thing I have ever used, one that seldom fails, and also one that is harm-

less, is a high saline enema, using for this purpose a soft velvet eye catheter. Place a piece of rubber sheeting or oil cloth on the bed or several layers of newspapers will do, over this one of the baby's little pads or napkins. The baby's napkin is then removed and it is laid on its side, its little clothes folded back well out of the way. Immediately under the buttocks a large pad of absorbent cotton is placed to catch the water and feces that will be expelled. The catheter is oiled and inserted as high as possible and the enema given slowly. From two to four ounces is given at a time, repeated several times until the bowels are emptied. In expelling the enema the gas is also expelled and the baby usually goes quietly to sleep. The room should be well heated and the infant not exposed to draughts. Do not give peppermint or brandy water. These upset the stomach and cause indigestion and do more harm than good. See that the infant's feet are warm; if not apply a warm water bag to them. Be sure the water in the bag is not too hot. Baby's skin is very sensitive.

Infection of the Umbilicus.—It must be remembered that the umbilicus is a surgical wound and subject like any other wound to infection. The same care that is exercised regarding the hands of the nurse and dressing of surgical wounds must be observed in dressing and handling the stump of the umbilicus cord. Direction for the treatment and dressing of same has already been given.

Tetanus.—Tetanus is caused by infection, usually of the umbilicus cord. A lack of asepsis in tying, cutting or the after-care of the umbilicus cord. It is always fatal.

Hernia.—Umbilicus hernia is not uncommon and is due to imperfection of the walls of the abdomen in early fetal life and not to improper tying of the cord. The treatment has already been described in a previous chapter on "The Care of the Cord."

Hiccoughs.—Hiccoughs are very annoying to the baby. A few grains of granulated sugar placed on the tongue will dissolve and trickle down the throat and usually relieves this distressing condition.

Thursh.—Thursh is an infection of the mouth and is caused by uncleanliness, and should not occur. It is always due to neglect. If baby's mouth is washed carefully after each feeding, with a solution of boric acid or a little bicarbonate of soda solution, this condition would never occur.

Engorgement of the Breast.—A peculiar condition which sometimes affects children during the first three weeks of life, is an assumption of a function similar to lactation in the mother. The secretion closely resembles colostrum, and may be found in the mammary glands of babies of either sex. The nurse should not attempt to squeeze the milk out, as any existing inflammation would be aggravated by so doing.

Treatment.—For such a condition dress the glands with a little camphorated oil, over this a pad of absorbent cotton; a little bandage is placed around over the pads to prevent them from slipping, or simply hold them in place by pinning them with a small safety pin to the little shirt. This is usually all the treatment that is necessary. The condition disappears in a few days.

Vaginal Discharge.—Little girl babies sometimes have a little whitish mucus discharge from the vagina.

This is of little importance; the only treatment is cleanliness.

Menstruation.—In rare cases the female child has a discharge resembling menstruation. It usually has no significance, yet should be reported to the physician.

Size and Weight at Birth.—The average weight of a girl baby is seven and a half pounds to eight pounds, a boy from eight to nine pounds. The average length of a girl baby is from nineteen to twenty inches, and a boy from twenty to twenty-one inches.

Teething—This is inserted simply for completness, and it may be a suggestion to some inexperienced nurse in caring for such an infant. Keep the stomach and bowels in a good condition and there will be no cause for alarm. Should fever occur, it is usually caused by indigestion. The child swallows a great deal of mucus; this is especially true of children that do not drool. Watch the bowels and character of the stools. If slimy, containing mucus and curds and are green, give a teaspoonful of castor oil or laxsol, and omit the food (if a bottle baby) for twenty-four hours and give barley water or albumen water. Where the teeth are very broad and thick and the gum tissue hard, it is better to have them lanced; it saves the little one much suffering. Do not allow the baby to suck its thumb; it spoils the shape of its mouth, increases the flow of saliva, which causes indigestion and predisposes to adenoids. There are twenty teeth in the first set. The two central lower teeth are usually the first to appear. They are cut between the fifth and eighth month. Next are the four central upper teeth, which are cut between the eighth and tenth month. The other two lower central teeth and the

four front double teeth between the twelfth and eighteenth month. Then the four canine teeth; the two upper ones are known as eye teeth and the lower ones as the stomach teeth; these usually come between the eighteenth and twenty-fourth month. The four back double teeth, which complete the first set, come between the twenty-fourth and thirtieth month. The time of appearance of the teeth varies. In some families they come very early, in others late.

Symptoms.—The symptoms of teething are fretfulness, restlessness, loss of appetitie, drooling, indigestion, sucking or biting of the thumb or finger and fever. Sometimes the teeth are large and the gum tissue very tough and hard, and the gums are lanced to assist nature, thus relieving the child of much suffering. During teething children frequently have convulsions.

Convulsions.—The first thing noticed usually is a jerking and twitching of the limbs, the infant is restless and does not care for food. The first thing to be done is to keep the infant and surroundings quiet and notify the physician at once should a convulsion take place. While waiting for the physician, the nurse should give an enema of saline, to empty the baby's bowels, and two drops of syrup of epecac every twenty minutes until vomiting is produced. Often convulsions are caused by indigestion. Place the baby in a hot mustard bath. The temperature of the bath for a baby in a convulsion is ninety-nine and a half. You can not reduce the temperature of the water below the normal temperature of the body. The baby is easily supported in the water by placing the hand under the back. The baby should remain in the water ten to fifteen minutes. Ice should be kept constantly

on its little head. There should be a tablespoonful of mustard to each gallon of water. When the convulsion ceases add a little cold water. Have plenty of hot water for the physician when he arrives.

APPENDIX.

The Life of the Nurse.

"Oh may I join the choir invisible
Of those immortal dead who live again
In minds made better by their presence-live,
In pulses stirred to generosity,
In deeds of daring rectitude, in scorn
For miserable aims that end with self,
In thoughts sublime that pierce the night-like stars,
And with their mild persistence urge men's search
To vaster issues. . . . May I reach
That purest heaven, be to other souls
The cup of strength in some great agony,
Enkindle generous ardour, feed pure love,
Beget the smiles that have no cruelty—
Be the sweet presence of a good diffused,
And in diffusion ever more intense.
So shall I join the choir invisible,
Whose music is the gladness of the world."

"Every noble life leaves the fibers of it interwoven into the frabic of the world."—Ruskin.

The life of a trained nurse is one filled with awe, hope and great responsibilities, yet a privileged and sacred calling. There is no more useful or nobler profession than the "trained nurse." She who cares tenderly and lovingly for the sick, suffering and dying, fills the noblest trust of woman. The good she has in

her power to do, the aching hearts and brows that she may soothe, the pain-stricken and mangled forms that she may handle gently and tenderly; to her, indeed, is given a rare opportunity, a great privilege. The life and ministrations of a kind, gentle, sympathetic and conscientious nurse is a great blessing to suffering humanity. She has many sacrifices to make, and many trials to contend with; she will meet with many discouragements in serving the sick and suffering; her efforts and devotion to duty will not always be appreciated as they deserve, but she can be kind, faithful, true and attentive and know the peace and joy that comes with the knowledge of duty well done. This is , and should be, her true and real compensation. For gold or honor can never repay a nurse for the services she renders, the sacrifices she makes or the dangers she braves in serving suffering humanity. But should she meet with ingratitude, let it not deter her on her upward march, let it not cause her to hesitate or falter, but rather stimulate and strengthen her to walk faithfully and honorably in the noble profession she has chosen and be an ornament thereto. Let her, too, recall all those big brown and blue eyes that have looked up to her from their white pillow of pain with love, gratitude and hope and she will feel she is more than compensated for any ingratitude she may meet, and finally what a rich reward in heaven will be the lot of the faithful nurse. God is faithful to His promises. If He has promised to reward even a cup of cold water given in His name, what will be the reward of those who have spent their whole life in ministering to the sick and suffering. The whole life of such a nurse has been one of continual sacrifice. But every step she has taken, every word of consolation

she has spoken, every service she has rendered, every wound she has dressed, every pain she has soothed all have been registered in the book of life by the recording angel, a true member of the "Choir invisible, a cup of strength in some great agony."

A nurse's life work is one of sacrifice to God and humanity, and sacred in the eyes of both.

The Duty of the Nurse Toward the Physician.—

"Fill up each hour with what will last,
Buy up the moments as they go;
The life above, when this is past,
Is the ripe fruit of the life below."

The nurse and the physician should have entire confidence in each other in order that satisfactory results may be obtained. The nurse should always be loyal to the physician in charge, and scrupulously faithful in carrying out his orders and treatments loyally and faithfully, without modifying or changing them in any way. If a nurse by her conduct or words shows a want of confidence in the attending physician, it may be a means of destroying all confidence between the physician and patient. Never by word or look cast a reflection upon the ability of the attending physician; speak with confidence in his skill and ability to handle the case, and the nurse should impress upon her patient the importance of relying upon the doctor's skill and following his directions implicitly. Never by word or look cast a reflection of a doubt as to his ability to handle the case. Nowhere is faith more necessary than in the sick room. Without this confidence the doctor can do but little, the patient is made miserable, and often life depends upon it. The methods of one physician may differ somewhat from the methods of another, but both obtain uniformly

good results. A nurse may think what she chooses, but never question the physician's methods. The nurse acting as his assistant, is bound to carry out his treatments loyally and faithfully without modifying or changing them in any way. She should be broad and just adhere loyally to the methods prescribed by the attending physician. She should remember she is a nurse and not a physician, and not assume responsibilities that do not belong to her; moreover, if she follows and carries out loyally the orders of the physician, she has done her duty, and is not to be held responsible for untoward results.

Be frank with the physician. The nurse should consider no symptom too small or trivial to consult him about. He will appreciate it and trust her. The physician relies on the nurse in observing and recording the symptoms, and on the information thus obtained he often bases his diagnoses and prognoses. He assigns to the nurse exclusively the duty to carry his treatments into effect, and in so doing he feels assured that his patient is in safe hands.

Keep an accurate record of all symptoms. Do not consider anything too trivial to make a note of; better err by making your notes too full than omit something which you may consider small but which may have an important bearing on the case. Be careful of the little things: they mean so much both to the successful issue and comfort of your patient. Above all else inspire the patient and the patient's family with confidence in the attending physician by your words, manner and loyalty to him. It is not so much through any actual words that the nurse inspires the patient and friends with confidence in the attending physician as the manner in which she receives his orders

and her readiness in carrying them out, all of which are readily intercepted by anxious friends. A nurse should never show by her manners towards the physician any shadow of rudeness, even, although she should have but little respect for him or his ways. If a nurse knows full well, beyond the shadow of a doubt, the physician is not doing his duty, either because he is ignorant or indifferent, and she can not conscientiously remain under his direction or carry out his treatment. Under these circumstances it would be wrong for her to continue on the case; it would reflect on her character and she would become a party to maltreatment. In such a case tell the physician frankly you can not continue on the case and your reasons why, and for the patient's safety suggest to the family or friends the necessity of calling in some other physician in consultation. If for any cause a nurse is obliged to oppose the doctor, guard against doing it in the presence of a third party, or in the hearing of the patient. Always some distance from the patient's room. Any special feature in the case or regarding the patient, the nurse should make an opportunity for speaking to the doctor about them outside of the patient's room. And at the conclusion of the visit, after all orders and instructions have been given the nurse by the physician, the nurse should retire for a few minutes and leave the patient alone with the physician so that she may have an opportunity to say anything she wishes to tell him in private.

Be honest with the physician. "Honesty is the best policy" and a priceless virture in all walks of life, but especially is it so in the nursing profession. Be honest then with the physician. If you neglect to carry out an order or treatment, or make a mistake, have the

moral courage to tell him. None are so perfect that mistakes are impossible. All may make a mistake. In acknowledging a mistake the nurse will gain the confidence and respect of the physician. In trying to hide a mistake or omission she can not fail but to create a doubt and mistrust which no matter how faithful she may be in the future, she can never efface.

The nurse's duty to the physician, then, consists in loyalty to him, in carrying out his orders, observing carefully everything and reporting same to him, and cordial relations cannot fail to be established between physician and nurse when the latter proves herself to be his faithful and loyal assistant, and he in his turn shows, by his manners and address, his confidence in and his respect for her.

The Nurse and Her Patient.—

"Ask of God to give thee skill
In comfort's art,
That thou may'st consecrated be
And set apart
Unto a life of sympathy:
For heavy is the weight of ills
In every heart
And comforters are needed much
Of Christ-like touch."

All things whatsoever ye would that men should do to you, do you even so to them.—Matthews vii, 12.

We have selected as a means of livelihood nursing as a profession, and a noble profession it is, sacred in the eyes of God and man. Nursing is a vocation for which every one is not adapted, particularly this delicate branch of the profession. Tact, courtesy, adaptability, power of invention, unselfishness, sympathy,

kindness, refinement of character, common sense and a love of her profession are characteristic of the true nurse, and great is her power for good. When summoned to attend a case of illness it is well for the nurse to remember that hers is a mission of mercy, and that it is her duty to bring fortitude, courage and hope into the afflicted home where dread and fear dwell. She must bring hope and cheerfulness into the sick room by her gentle looks, kindly pleasant smiles and softly uttered words. She should be dignified yet modest, gentle, kind and sympathetic, yet firm and determined when necessary. If she could only remember to follow in every instance the golden rule, to do unto her patients even as she would have done unto herself, or unto one of her own loved ones, she would not be apt to make many mistakes. From the moment a nurse enters a home, she should endeavor to win the confidence of her patient and the family. Many sick persons object to a trained nurse because of fear that their loved ones will be banished from the sick room. The family should not be denied the privilege of the sick room, or restrictions placed on their visits unless it is the order of the attending physician, or when the nurse sees it is harmful to the patient; then she should tell the physician, and he will give orders accordingly. A nurse should avoid showing any marked authority; always give due consideration to any suggestion offered, and give way to any wishes respecting the patient, when such a course would not be harmful. A nurse should so conduct herself that the family will gradually learn to lean on her and feel before many days she is indispensible. She should be tactful, evade questions when she finds it necessary, but should not be mysterious in her actions. A simple explanation

will often allay great fears. She should guard the interests of the patients intrusted to her, that her high mission in life may be fulfilled. Secrets even dearer than life itself will often be instrusted to her keeping. In all homes there are secrets. A nurse should remember in entering the private sanctuary of a home, to keep her eyes open and her mouth closed. "Silence is golden." Shakespeare says, "Give thy thoughts no tongue." If she finds disease lurking where she did not expect to find it, if she hears the rattle of the bones of the skeleton in the closet, she should remember her trust is a sacred one and what she may have heard or seen on these occasions in this confidential capacity should be held as sacred and in the strictest confidence. A nurse should never gossip. Avoid it as she would poison, for it will be to her a deadly poison if she does. To refrain from this is, I am sure, more easily said than done, for the strongest temptation generally comes from the patients themselves. But a nurse should be no tale-bearer. She should never mention the family affairs of any patient. People do not care to hear the praises of others sung continuously or hear of their faults. It is true, at the time, the enquirer may be amused or entertained; but sooner or later those friends will distrust her, they will think, if she talks about Mrs. B. to me, she will talk of me to others. A nurse can not accept these confidences and betray them and continue honest, and the contempt and failure she so richly deserves will be her portion. Perhaps the best way, after all, will be for the nurse to meet the issue frankly and say she feels it to be a matter of duty never to talk about her patients; it is true the enquirer may feel a little hurt or annoyed by the refusal, but in her heart she must confess the

loyalty which refuses to discuss professional affairs is highly commendable, and she will respect the nurse for it. A nurse should be a woman of character, with purity of life and speech. The sick room is no place for vulgar jest. The life of a nurse should be most circumspect and honorable. Her life enters into and bears a closer relation to the life of the patient than she may think. Her position at the bedside of the sick gives her a license to converse on subjects not mentioned in mixed audiences. She should use the privilege fearlessly and without coyness, but when the threshold of the sick room is crossed, she should remember she is a woman and let her conversation be in keeping with her sex. With all men with which she may be brought into contact in the performance of her duty, physicians, the patient or his family, she should maintain always a courteous but strictly professional impersonal attitude. Be gentle in word and action, and faithful in the performance of her duty. Always remembering she has the highest mission intrusted to her. She should be faithful to her trust and true to her womanhood. She should have a heart so as to be a blessing to her patient and the family. A mechanical nurse is a failure. Always remembering that sympathy and kindness are twin virtures which must be possessed by every nurse who wishes to make a success of her calling and accomplish the vast amount of good that lies within her power in the broad field she has chosen for her life's work, and

"When the lessons of life are all over
And the Master says our school is dismissed,
May we all meet in heaven together,
Not one of our number be missed."

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